

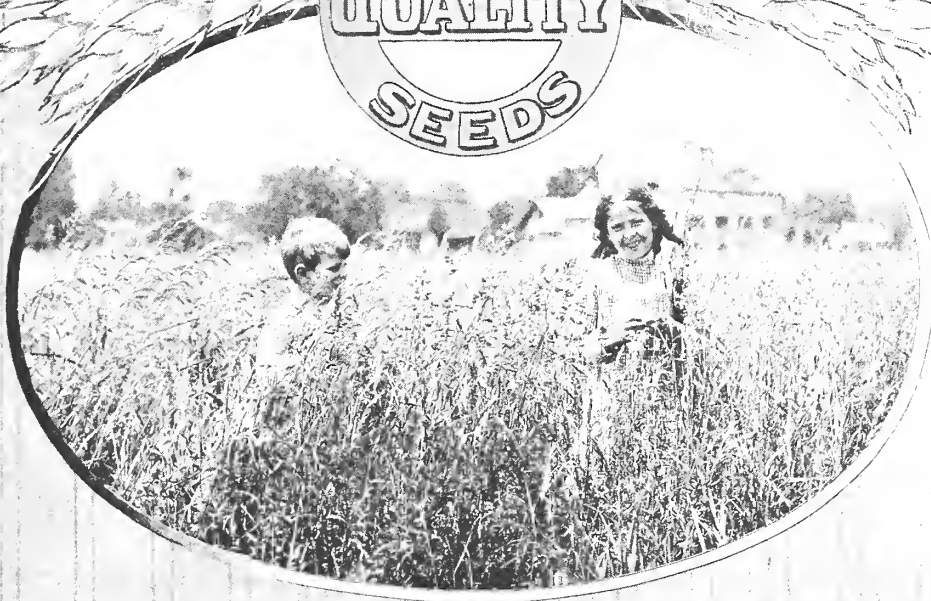
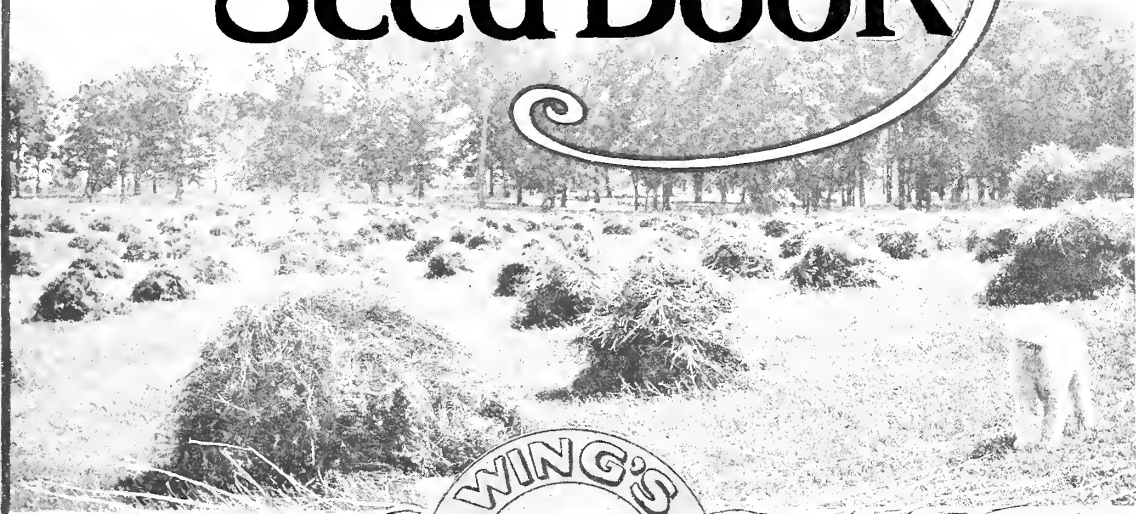
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Wing's

Seed Book



THE WING SEED CO.
MECHANICSBURG, OHIO
1916

INTRODUCTION



JOSEPH E. WING (now deceased) and a shock of Wing's Improved White Cap Corn.

TO DEFINE "Seedsman—a man who sells seeds," would today be the rankest kind of injustice to all of the great firms. In a broader sense, a seedsman gathers not only the great staples, the necessary seeds and plants, but rare and beautiful sorts collected from out of the way places, and offers these to his patrons. In addition he gives cultural directions. Further, his work broadens out into plant breeding in all of its different phases. He not only improves standard sorts, but introduces countless new things which are either beautiful or useful. In this plant breeding his work many times approaches that of the experiment stations or the U. S. Government.

Our own manner of entrance into the seed business was, we believe, unusual. Twenty-five years ago our Mr. Joseph E. Wing, whom most of you know died a few weeks ago, brought back from the great ranches of the West an inspiration to try Alfalfa in the Corn Belt. He succeeded with his first attempt. The result delighted him and he began urging others to try this wonderful plant. The result was a flood of letters asking how to grow it and where to obtain the seed. These questions were answered either through the farm press or by personal letters; and merely as a matter of accommodation, we began handling Alfalfa seed, selling it without any commission, but taking our pay in the satisfaction of knowing that our customers were getting good seed.

About fourteen years ago our Mr. Joseph E. Wing's

time became so fully occupied with writing and lecturing (he was traveling so constantly) that it became impossible for him to look after the correspondence with regard to this seed, and our Mr. Chas. B. Wing undertook this work.

For several years we handled this seed without any commission, but gradually the work became too heavy to permit of this and we decided to sell seeds and charge a sufficient margin to pay for the trouble of answering our correspondence. Our Mr. Chas. B. Wing handled this work from the beginning. Gradually it was found that we must handle a full line of seeds, not Alfalfa exclusively, and these have been carried now for a number of years.

From the beginning we felt that we had a definite line of work laid out for us, not only the selling of seeds, but the introduction of new and rare sorts of merit, the breeding of important varieties, introducing pedigreed strains and finally in an elaborate degree, the instruction of our customers as to cultural methods. In all of these matters we think we have succeeded reasonably well. What the Corn Belt owes to our Mr. Joseph E. Wing for introducing Alfalfa into those states can be expressed only in terms of millions. It owes some money, if we may express it thus, to The Wing Seed Company for the introduction of new and rare varieties of Alfalfa; for the introduction of Beardless Barley as a nurse crop; of Bromus Inermis, one of the world's greatest grasses; of the Soy Beans which are rightfully coming into prominence among our great forage crops; for the pushing of Melilotus Alba, the greatest pasture plant known in the Corn Belt, and to many other plants.

We have none of Mr. Joseph Wing's literary eloquence, but we know seeds, and our loss in his counsel is being partly made up owing to the fact that his eldest son has come into the firm with us to devote all of his time to this business.

We went into business in self-defense, because we were asked to give so much advice. After we had actually started the seed business, we were glad to give our customers freely of our time in this work. Today, however, this department of our business has reached such proportions that we find it necessary to mention it to you here. Last year we wrote approximately nine thousand letters of advice to our customers. The total cost, including the time, labor and postage on these letters, including the cost of the educational part of our catalogue and including the experimental work carried on throughout last year (only experimental work which seemed necessary in order to give our customers the advice for which they ask), was several thousands dollars. Neither can this work be slighted nor handled in an inexpensive manner. It calls for large outlays of money, and it must be handled by our most skilled help. We are not complaining about the matter. We are very willing to help our customers at all times. Those who are not our customers or prospective customers have less right to ask for our time. We do ask our customers to read carefully the instructions in our catalogue before asking questions, and not to take offense, if, when they ask for advice, we answer them briefly: to remember that while we are answering their letter, there are ninety-nine others waiting for similar answers.

GUARANTEE

WHILE our seeds are selected with the greatest care we do not guarantee them and will not be responsible for the crop. However, we are perfectly willing that our customers should send our

samples for analysis either to the Department of Agriculture at Washington or to your state experiment station, and we will also be glad to have them tested for germination.

PRICES

Prices of many of the grass seeds fluctuate so much in market that we have decided, instead of putting our prices in the catalogue at a high enough level so that we could be sure to maintain it throughout the season, to use the Price List, which is independent of the catalogue, and this will be found enclosed. We will change our prices as market conditions compel us to, thereby giving our customers the bene-

fit of any fall in prices, instead of beginning the season on a high level and maintaining it throughout as some other seedsmen do.

In order to take advantage of our Price Lists, orders should be sent us immediately upon receipt of them. We usually change prices once a week, on Saturday.

SHIPMENTS

Unless otherwise requested, we make all shipments the day following receipt of order. When requested, we will

hold shipments a reasonable time, until customers are ready to have us make shipment.

IMPORTANT SUGGESTIONS

When ordering seeds of us be sure to specify whether you wish shipment made by freight or express. We have the Big Four Railroad and the American Express only.

Be sure to state your county and railroad, as this facilitates your shipment.

We sell absolutely for cash. We accept checks at their face value, drafts or money orders, but if cash in some form does not accompany your order it is our invariable rule to send C. O. D., or if by freight to attach sight draft to the bill of lading, payable upon arrival of the seed and after your inspection. Go to the bank, pay the draft and

get the bill of lading, give it to the freight agent, and he will deliver the seed to you. This method of shipping whereby we attach sight draft to the bill of lading is very safe for our customers themselves, as they do not have to pay the draft until the goods arrive, nor do they have to pay at all unless the goods are satisfactory.

If your seed arrives short weight or damaged, have your agents mark condition and shortage on your expense bill, and send to us immediately. We will either assist you to file claim or do so ourselves, but we cannot do it without this expense bill so marked.

FIELD SEED DEPARTMENT

ALFALFA

By CHAS. B. WING.

IMPORTANT THINGS almost always seem to start with some little incident not apparently important of itself. Over twenty-five years ago our Mr. Joseph E.

Wing was compelled to go to the great ranches of the West in order to develop more robust health. He stayed there a year or so, securing the strength that he needed, and then returned to Ohio. The important part of the whole matter was that he brought back with him a love for the

Alfalfa plant, that he undertook to grow it on our old farm, and that his first attempt was a complete success. In a few years we were growing several acres of it, and after finding that it grew readily and that our stock loved it dearly, Joe began writing for the farm papers, advising everybody else to go and do likewise.

This happened early in the nineties. Times were desperately hard. Had my father not left several thousand dol-

lars of money out at interest, I scarcely know how we could have lived during those years from the very meager receipts from the farm.

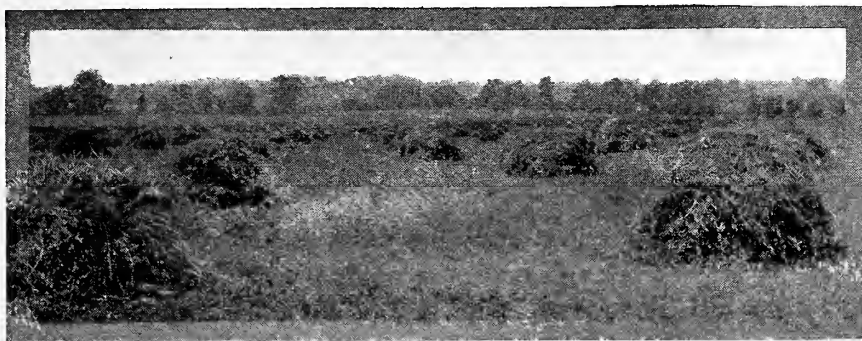
I remember that we bought a neighbor's corn for 18 cents per bushel; the market advanced to 20 cents and he refused to fill his contract, whereat both of us were aggrieved. Another neighbor sold us his corn at 22 cents; the market advanced to 24 cents, and then he refused to fill the contract. These things seem amusing now, but they were far from amusing at that time.

We sold no Alfalfa hay. In fact, we did not usually have enough hay for our own consumption, but we thought the Alfalfa paid because it yielded well and our stock thrived on it so much better than on the Timothy and Clover which we had formerly used.

I well remember that when we first had forty acres of Alfalfa seeded down, I told our mother



Alfalfa on one of our farms. Twelve acres of first cutting in this field made 36 loads.



Third cutting Alfalfa, fertilized two years ago with 400 pounds per acre of basic slag.

that I believed times would get better for us now, that it was pretty hard to live off the income of the farm, but that I hoped this Alfalfa was going to benefit us. None of us ever dreamed how greatly it would benefit not only ourselves, but the other farmers throughout the Corn Belt who were to follow in our footsteps and grow this great legume.

About the same time that we began growing Alfalfa, we began feeding the hay to western lambs. First we fed, I think, about a hundred and fifty; about the next year, two hundred, then three hundred, five hundred, seven hundred and so on to our present capacity. The increase was moderate in the beginning but followed quite rapidly, and after we reached about five hundred head, the fertility of our place was increasing almost by leaps and bounds.

We did not get much of a start with Alfalfa until probably 1893 or '94, but by 1900 we were growing seventy-five or a hundred acres, and since that time we have never had less than a hundred and sometimes we have between three and four hundred.

About 1894, probably, Joe began strongly urging other farmers to grow the plant, and largely through his efforts it has become established throughout the states east of the Missouri River. There is nowhere nearly as much of it grown even today as there should be, but sufficient progress has been made so that the farmers themselves are doing vast amounts of boosting for it. They thoroughly understand how to grow it, and it has assumed great importance as one of our leading crops.

I have mentioned our own success with it, not at all as a boast, but simply to encourage some other farmer who is hesitating whether or not to change his methods and try Alfalfa.

The vast majority of my readers know already the advantages of this crop, but for the benefit of the few who do not know, let me state a few indisputable facts.

In the first place, Alfalfa is unquestionably the most nutritious and the most palatable forage plant grown in North America today. In its chemical analysis it is fully equal to wheat bran. In Experiment Station tests it has actually been shown to feed as well as wheat bran, a pound of Alfalfa displacing a pound of bran with (if any difference) better results. Dairy cows thrive on it as on no other feed. Cattle fatten on it better than on any other forage; horses will retain their flesh on it with a smaller allowance of grain than with any other feed; nothing will take its

place with sheep, either as a maintenance ration or for fattening purposes, and even for poultry, there is nothing so good. Brood sows will stand up to a self-feeder of it all winter and thrive as on nothing else that can be given them. Fattening hogs put on gain faster and cheaper when given an Alfalfa pasture supplemented by corn than with any other combination known.

In the second place its great roots penetrating, under favorable conditions, for ten, fifteen or twenty feet, bring up both nourishment and moisture from depths in the soil that no other crop we grow could possibly touch. In times of drought the Alfalfa fields are the only green thing the eye can find.

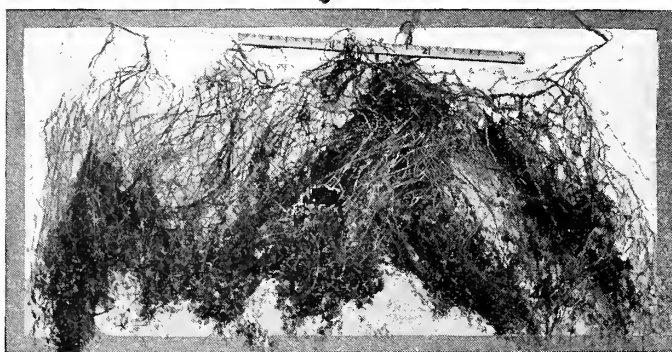
In the third place, in seasons like 1915, when we have constant deluges of rain, your small grain will be growing vigorously in the shock in spite of anything you can do; your Clover will be absolutely ruined, and your Timothy or mixed hay practically spoiled, while your Alfalfa hay, if you have paid any attention to it at all, will be worth 50, 75, perhaps even 80 or 90 per cent. of its original value. In other words, it will stand vastly more punishment from rain than will any other form of hay and vastly more than any of the small grains will. In a year like 1915, when it seems as though you were going to lose your entire crop from rain, the Alfalfa is the one thing that you can count upon saving.

Last, but not least, while it is giving us bountiful crops, say four tons of hay per acre, worth, if compared with wheat bran, \$25.00 per ton, it is actually bringing up the fertility of the soil. The biggest corn crop you ever grow follows an Alfalfa sod.

For years one of the biggest bugaboos about Alfalfa has been men's idea that the plant is remarkably difficult to grow. How this idea started would be difficult to say, but it is anything but the truth. Given only a reasonably well drained limestone soil and Alfalfa will almost grow like weeds without any remarkable preparation whatever. One of our best friends recently criticized our own labors by saying that we ourselves, in putting out very explicit, careful rules for the growth of Alfalfa, had fostered the hallucination that it was difficult to grow and that it was necessary to follow the most intricate and difficult rules minutely in order to succeed. It we have ever given this impression, we wish to apologize for it. Alfalfa is not difficult to grow. It is succeeding in our own neighborhood, we believe, fully twice as easily as is the growth of Medium Clover, but we do say that Alfalfa is a rather peculiar



Third cutting Alfalfa, fertilized two years ago with 400 pounds per acre of acid phosphate.



Part of an Orenberg Alfalfa plant. Many of the leaves were broken off in transit from Dakota, where it was grown.

plant, that its requirements, while few, are vitally important to it, and we give very explicit directions for growing simply to do away with the old theory that it was difficult to grow or could not be grown in a given neighborhood. Alfalfa can be grown in every county or township in the United States where land can be drained to a depth of three feet.

There are many methods whereby men can succeed in growing it. After twenty-five years of work with it, work including its growth in large areas on our farms as well as much time and effort spent in purely experimental work, we have demonstrated to our own satisfaction the best cultural methods for it. These methods we give carefully and in detail, not because it is difficult to grow, but simply in order to cover every possible contingency in all the vast area east of the Missouri River, and to make things so plain and easy that not one of our customers can fail if he follows these instructions.

Requirements The requirements of Alfalfa are few and are easily explained. They are lime, inoculation, drainage, proper fertilizers, proper seed and proper method of seeding.

Lime Among the great things which our Mr. Joseph E. Wing accomplished in his lifetime, that of placing lime in its proper importance throughout the Corn Belt should in my opinion be placed second only to his starting the Alfalfa itself.

For many years farmers in certain counties of this as well as adjoining states were succeeding admirably with Alfalfa, while farmers in other counties were miserably failing. No one seemed to know the reason for this, and we ourselves thought probably there were Alfalfa belts where the plant would thrive and others where it was foolish to undertake its growth.

Finally, perhaps twelve years ago, my brother happened on to the cause of these failures in certain places. It was lack of lime, or at least that was the principal cause. Since that time we have talked lime, until we believe today, owing to Wing teachings more than any other one thing, there is ten times as much interest being taken in lime as there was six years ago, and our greatest soil experts say that the end is not yet, that we are exactly on the right track, and that not only the Alfalfa, but many of our other crops are being vastly improved by the use of lime.

There seems little question that Clover sickness is in many cases due to lack of sufficient lime, and it would seem very probable that within ten years from now nine-tenths of the farmers living east of the Missouri River will be using lime, at least to a moderate extent, not only on their Alfalfa, but on many other crops. I asked Director Thorne, of our own great Experiment Station, the other day, if this were not his opinion, and he replied in effect that it was. We have no greater soil expert than Director Thorne, and his words are well worth heeding.

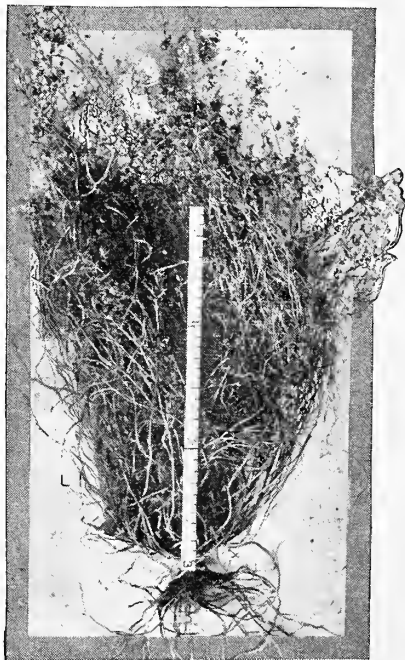
Why do we need lime so badly? The reason is so vital that it is well worth taking a little time to explain. The

great majority of you already know a good deal about the minute organisms of the soil called bacteria. You know that these live on the roots of the legumes, that they draw nitrogen from the air and feed it to the legume itself. This constant accumulation of nitrogen is going on continually with all of our legume crops provided that these little bacteria are present. If it were not so, the life on this earth would soon perish.

Most of you know that the bacteria perish in sour ground, and all of you know that lime sweetens the ground. In addition to performing this great work, lime exerts another beneficial purpose of only a trifle less importance; it makes the soil more mellow, and, in some cases at least, it will help you to utilize the elements of fertility that are already existing in the soil. The most important thing, however, is that it sweetens the soil, making it a proper habitat for these tiny bacteria. If the soil is acid, moreover, it becomes the proper home for injurious bacteria. These thrive in cold, soggy, sour lands, and they are as injurious in such soils as the good bacteria are beneficial in sweet soils.

You will thus see that lime is one of the master keys to agriculture. Its importance cannot be overestimated. Without it legumes fail. Without legumes our nitrogen is quickly used up, and its restoration, unless done by the legumes is more expensive than civilization can possibly stand.

Where Lime is Needed I will very freely admit that there are many places throughout the Corn Belt where the application of lime is at present entirely unnecessary; many other places where light applications will be amply sufficient. On the original portion of our own farm chemical analysis shows the lime content to be naturally ideal. It has never been necessary to apply any lime whatever, and it may never become necessary on this soil, especially if we used deep-rooted crops like Alfalfa, which can penetrate deeply into the subsoil, drawing up some of their store of lime from this source, but on the other hand there is, in my opinion, not a single state east of the Missouri River in which you cannot find certain counties that do require lime. It is probable that the more fertile portions of Missouri, Iowa, Indiana, Illi-



A Grimm Alfalfa plant sent us by our grower in Dakota. Many leaves were broken off in transit.

nois and western Ohio require it less than other states east of the Missouri River.

Wherever Clover fails to thrive you should investigate to see whether your lime content is right or not. Wherever Alfalfa turns sick and yellow during the middle of the summer, you may feel reasonably sure that you lack lime. It is a simple and inexpensive thing to determine with a moderate degree of accuracy whether lime is needed or not. Ten cents' worth of sensitive blue litmus paper will give you a fair idea of the condition of your farm. Make little moist balls of earth, insert a strip of the paper and let it stand for half an hour, and if it has turned pink, you certainly need lime.

A second test is also useful. A few cents' worth of muriatic acid poured on the soil should bubble if it comes into contact with any lime. If you want a still more accurate demonstration, have a sample of your soil analyzed to determine the lime content.

Forms of Lime

There are several forms of lime in use today. The fresh burned or caustic lime, hydrated lime, air-slaked lime and ground limestone rock. For some years there has been considerable discussion as to which is the best form to apply. It seems to me that this discussion has been amply settled by the Pennsylvania Experiment Station, which conducted the longest time set of experiments along this line ever undertaken in the United States, the test running, if I remember right, for over thirty years. They found that caustic lime actually burned up and destroyed seven dollars' worth of humus per acre. That is equal to a reasonably good application of manure, and certainly none of us can afford to destroy humus at this rate. In my opinion, caustic lime deserves no place whatever on the farm when used as an application to the land.

Hydrated lime is simply caustic lime that has been ground up and treated with water in order to do away with the caustic principles. It is better for use on the soil than the caustic lime, but usually contains a little caustic principle, and this we are trying to get away from.

Ground limestone is nature's own method of taking care of the matter. It contains no injurious qualities whatever. It may be applied to the soil just as heavily as you want to without the slightest danger of injury. It may be applied on growing crops or at any time of the year without any injury. There are many places in the Corn Belt where ground limestone rock can be purchased at about \$1.25 per ton at the factory. This makes its application low priced. To make matters easy for our customers, we have included in this book a list of manufacturers from whom they can secure this product.

It is perfectly true that it requires two tons of ground limestone to sweeten soil when but one ton of caustic lime is needed. The reason for this is simply that a ton of ground limestone contains approximately one-half ton of water, while the fresh burned or caustic lime contains practically no water. However, the reasons why we dare not use caustic or fresh burned lime have already been fully explained to you. Wherever lime is needed at all we think that two tons per acre of ground limestone should be applied about every three years, and especially in the states east of Ohio as well as in the more acid portions of Ohio itself, we think that four tons should be used as an initial application, and there are even places such as southern Indiana, Virginia and other states where as much as ten tons per acre should be used as an initial application.

There are places in the Corn Belt where ground limestone cannot be secured cheaply owing to the cost of freight. Such places will usually succeed best either by owning their own grinding machinery or by shipping in the caustic lime and allowing it to thoroughly air-slake. I think that a year's time is none too much for this air-slaking process. However, if given a year's time, I think that the caustic lime becomes quite a safe substance to apply.

Air-slaked lime should be applied in the same amounts as



Note the leafy character of this growing Orenberg Alfalfa plant.

ground limestone rock. If one is preparing to seed Alfalfa, in my opinion, the best time to apply the lime is before seeding. If he knows his ground to be sour, I would apply the lime three or four months before seeding. This will give it time to sweeten the soil before the seed is sown.

There are many makes of lime distributors today. The best one that we know of is made by The American Seeding-Machine Co., of Springfield, Ohio.

Where one has limestone on his own place and is not close to a manufacturer, I think in many cases it will pay to own grinding machinery. This machinery will grind the rock at a cost, I think, of about 50 cents per ton. Such machines can now be purchased for not over \$650.00, not a large enough investment to deter one from purchasing. The best machine that I know of is manufactured by The Jeffrey Manufacturing Co., of Columbus, Ohio.

Inoculation

Inoculation with Alfalfa usually pays. I do not say that it is always necessary, because on the original part of our own farm, we have never inoculated and have always succeeded. On land which we have purchased, however, it has been absolutely necessary to inoculate, and the importance of the matter has been impressed upon us by watching our neighbor's efforts throughout a period of many years.

Fifteen years ago our neighborhood rather got the Alfalfa fever. Hundreds of acres were seeded, mostly in small areas, and most of these lived. However, in most cases part of the field would be good and part would be yellow. Usually the yellow part moped along for about a year and then got better. These same meadows, after being mown for probably four or five years, were plowed up, and have very largely been reseeded now. I have watched this second seeding with much interest because there has been scarcely a case where any yellow spots appeared. The entire meadow was vigorous and thrifty, and in my opinion, has made double the yield this second time that it did the first year it was seeded down. This result has almost certainly been the direct accomplishment of the inoculation, as there has been no special treatment or fertilizer, not even lime, applied during the intervening years.

There are two pretty well known methods of inoculation, that of soil transfer and that of artificial cultures. In the course of the year a thousand men ask us which is the bet-



Alfalfa in our Trial Grounds. We have 70 strains growing side by side for purpose of comparison.

ter. We do not know. Both of them succeed under reasonably good conditions. We sell both, and it makes no difference to us which you buy. The soil transfer method is more cumbersome and in the end, especially if you have to ship the soil any distance, it is just about as expensive as the cultures. On the other hand if you can get soil from a previous successful seeding of your own or from around Sweet Clover roots, or from a neighbor, we do not think you need to hesitate about using this as a safe and reliable method.

Drainage Alfalfa, at least of the common variety, will not succeed on land that is not drained three feet deep. I am in hopes that the Grimm, and still more, the Siberian varieties, particularly the Orenberg, may be grown on soil that is drained less deeply, but that as yet is theory.

Where your plants heave out in the winter time, you may rest assured that you need more tile. Occasionally a man is afraid that the roots will stop up his tile ditches. You need not worry in the least. On the original portion of our home place, about two hundred acres, we have estimated that there are fifteen miles of tile drains. In twenty-five years only one of these tiles has ever choked in the smallest degree. This one runs to a spring which never goes dry, and twice in this time the roots have choked this tile. I think that where a tile does not run to a spring, you can grow Alfalfa for hundreds of years without the slightest trouble.

Seeding Just as long as it remains true that no two farmers can quite agree as to the best kind of corn, the best wheat or the best way to handle any one of their crops, so long will one man advocate one method of seeding and another man another method. For ourselves we know that many methods succeed. We think the most important thing is to sow some of it, but since we are giving our opinion as to what is the best, we will give you this in detail, as we have the rest of this article.

We have succeeded better with spring seeding, using Beardless Barley as a nurse crop, and sowing in April, than we have with any other time of seeding or any other method. We have also succeeded reasonably well by drilling the seed in with an Alfalfa drill on our Wheat ground early in April. This method we can recommend as reasonably sure to succeed, especially on mellow soil, or where the Wheat is harrowed ahead of the drill, in order to prepare the seed bed a little, but it did not succeed with us as well as when seeding with Barley; we therefore consider it just a fairly good method. We have seeded in the spring, using spring sown Winter Rye and Wheat as a nurse crop—that is, sowing the Rye and Wheat in April with the

Alfalfa. This method gave us moderately good results, but we still prefer the Barley to the Rye or Wheat.

We have tried seeding on top the ground in February and March and failed. Other men reported success by this method, but we advise our customers at least to go slow.

We have seeded in corn at the last cultivation and sometimes this succeeds; frequently it fails. We do not consider it a sure method, simply because the corn shades the ground too much and withdraws too much of the moisture. The reason why we do not like sowing with Rye or Wheat seeded in the spring is, that under certain conditions both of these plants stool out vigorously, and are inclined to crowd the Alfalfa a little. In addition they make not even a hay crop for us to harvest, while the Barley gives us either hay or

grain. If we were using 60-Day Oats as a nurse crop, instead of Barley, and sowing not more than one bushel per acre, we would rather prefer this method to that of the use of Rye. The Oats, however, come off the ground later than the Barley, and too often we find men using late varieties of Oats with heavy straw, which are inclined to lodge and choke the young Alfalfa plants.

There is a wide-spread prejudice against a nurse crop for Alfalfa. The foundation for this prejudice lies in the use of Oats for a nurse, instead of Barley.

Now the actual seeding of Alfalfa is mighty simple. We prefer the ground to be plowed, if possible. We want a good seed bed. We prefer to use one of the Alfalfa drills when seeding, as we think they save 25 per cent. of the seed. The best Alfalfa drill, in our opinion, is made by The American Seeding-Machine Co., Springfield, Ohio.

We aim to cover the seed only one-half inch deep. When we use Barley as a nurse crop, we use one bushel of it, and the amount of Alfalfa seed that we use varies with the conditions. If we were sowing under any kind of unfavorable conditions, we would certainly use twenty pounds of seed per acre. When conditions are approaching the ideal, we think a minimum of twelve pounds per acre with ordinary Alfalfa, or probably ten pounds with Grimm Alfalfa, will give good results. Probably most men had better use between fifteen and twenty pounds.

If we were not sowing in the spring with Beardless Barley, we would sow early in the summer without a nurse crop. In our opinion, July 1st would be the best time for summer seeding throughout the Corn Belt. When this date of seeding is contemplated, we would plow the ground early, would frequently harrow it throughout the season to kill all the weeds, and then would sow about July 1st.

If you have no Alfalfa drill, we think the next best method of seeding is to use one of the best hand seeders and to cover the Alfalfa with a weeder. The reason why we prefer spring to summer seeding is that the rains usually come better for the April seeding than for the summer seeding, and our use of the Barley as a nurse crop prevents the weeds from doing any material damage. However, in the states south of Ohio, on account of the prevalence of various bad grasses such as Quack Grass, Crab Grass, etc., later seeding, such as September, is frequently necessary and desirable.

Alfalfa Seed The question of seed is of the very greatest importance, much greater than we formerly supposed. We believe that our twenty-five years' experience has taught us where to buy and where not to buy. In addition we are today introducing several strains and varieties of new Alfalfas that we believe cannot be obtained from any other source. Finally, we believe that

we have machinery that will so clean and grade the seed, that we are enabled to put out a better quality than the world ever saw before. We have installed this year a machine which not only cleans seed, but grades it. With this machine we are able to carry two grades, Prime and W. B. The Prime seed is practically like what we have always sold up to this time. It tests about sixty-one pounds per measured bushel and runs very pure. The W. B. seed we consider simply perfect. It tests about sixty-three pounds per measured bushel, and contains practically no shrunken seed whatever.

Please do not ask us which of these two brands it is better to buy. We do not know. We have plots of them in our trial grounds in an effort to ascertain which is the best, but it will take ten years of experimental work to demonstrate this point.

In purchasing seed we must first consider the purity and general attractiveness, freedom from dead seed, plumpness, color, etc. We must then consider whether the seed was grown in territory that would make it sufficiently hardy for our needs, and finally we must consider the variety.

We guarantee our Alfalfa seed to run 99% pure, and welcome analysis by your Experiment Station.

We do not guarantee any particular germination on our seed, but are always glad to have our customers test their samples before purchasing, and we will always guarantee the seed to run like the sample.

Next, as to hardiness. We find that anywhere north of the Ohio River it is unwise to sow seed coming from Oklahoma, Arizona or other southern points.

South of the Ohio River southern grown seed may be used. This year famine conditions exist with a world's crop failure of Alfalfa seed, and we are forced to sell seed from states that we do not ordinarily patronize.

We will hold our prices as reasonable as we can, but there is such an extreme shortage that very high prices are likely to prevail before another crop of seed is harvested. We have moderate sized stocks of the best quality procurable in the world.

The hardest seed in common Alfalfa in the United States comes, we believe, from the Dakotas. Here the plants are subjected to the most extreme conditions imaginable, a temperature of over thirty degrees below zero, the ground bare of snow, frequently freezing to a depth of over six feet. In the summer time it is subjected to extreme drought conditions, a rainfall of thirteen to sixteen inches only, and to a rather hot sun. We are ordinarily able to sell two grades of seed from Dakota, one coming from meadows that were as much as four years old, which we call just "Dakota" seed, and one coming from meadows that were as much as thirty years old, which we call "Dakota 30." The seed from any Dakota meadow which has stood even as long as four years is bound to be mighty hardy. If it has stood conditions for thirty years, it will take very extreme conditions indeed to make it winter-kill. As a matter of fact, "Dakota 30" is, in our opinion, the hardest seed in the world outside of Grimm and the Siberian varieties.

Grimm Alfalfa Seventy years ago a man named Grimm, who lived in Minnesota, sent back to his native country, which I believe to have been Norway, for some seed which he remembered as being remarkably hardy. Up to that time farmers in Minnesota and elsewhere in the Northwest were experiencing great difficulty in retaining their meadows. They did all right the first year, but winter-killed each winter, and in a few years were practically killed out.

From the very beginning, I believe, his Alfalfa stood the winter. It may have winter-killed a little, but it certainly could not have been much, because before long it acquired the name of "Grimm's Everlasting Clover." For many years it was grown in his neighborhood only. Finally its commercial importance was realized, sowings were made all over the Northwest, and today the acreage is considerable.

Grimm Alfalfa has a few characteristics which distinguish it from the common. Its most remarkable one is its lack of winter-killing, this of course being a characteristic which no one could determine from the appearance of the plant.

Another characteristic which is frequently but not always found with this plant, is a root which forks or branches much more freely than does the common Alfalfa. This characteristic may have been too much talked about. When the plant grows on good deep, porous soil, it will not exhibit its forked root characteristics so freely as it will when growing under more unfavorable conditions, on ground say that is underlaid with hardpan rather near the surface.

A second characteristic of this variety is a peculiar greenish-yellow flower. This does not always appear either. In a great many cases the flowers are purple just like the common Alfalfa, but on some plants the greenish-yellow flowers appear, and flowers of this color are never found on common Alfalfa.

Another characteristic of the Grimm is a crown which is nearly always a trifle submerged, say about an inch below the surface of the ground. Usually also the Grimm has a larger crown than the common Alfalfa. It really will pretty nearly require an expert to distinguish between the Grimm and the common Alfalfa, and that is rather a provoking thing about the matter, but in the end the results obtained from the use of genuine Grimm seed are very satisfactory. Not only does it not winter-kill under even the most severe winter conditions, but in our trial grounds it is outyielding common Alfalfa perhaps 15 per cent. We will know more about this point in a few years, but that has been the result this year.

There will unquestionably be large amounts of common Alfalfa sold as Grimm, because the demand for the Grimm is very great. We would advise everyone to be careful about their source of supply. A great many of our customers ask us each year whether we would advise them to sow common Alfalfa or to sow Grimm. If we lived in Minnesota, Vermont or anywhere in a climate as severe as that of those states, we would sow Grimm Alfalfa. In New York and Michigan we would sow either Grimm or "Dakota 30." In Ohio we would sow either Grimm, "Dakota 30" or Nebraska seed, our preference, however, being for the harder seed, even if it does cost more money. South of the Ohio River we would ordinarily sow Nebraska seed.

We make this statement to apply to present conditions. If our tests continue to show the Grimm to be not only harder than any of the common Alfalfas, but also to outyield common Alfalfa, then unquestionably all of us had better begin changing to the Grimm, and it is my private opinion that before many years we will all of us be doing this.

A great many of our customers ask us if we guarantee our Grimm to be genuine. We personally visited the ranch of our grower, went over his fields and thoroughly satisfied ourselves that he had Grimm Alfalfa. Also in extensive business dealings with him we have had no reason to complain in any way, and have every reason to believe in his honesty. Finally he makes us an affidavit that the seed is genuine. This seems to us to make our customers pretty safe.

Siberian Alfalfa Several years ago the Government sent Dr. N. E. Hansen, who is known as a plant explorer, to Europe, his object being, among other things, to follow Alfalfa to its farthest northern habitat and to bring back what he found there. This trip cost many thousand dollars, and quite naturally Dr. Hansen brought back only a few pounds of seed. He found several new varieties growing in high dry localities, having a rainfall of less than twenty inches, sometimes only twelve or thirteen inches, a short hot summer, and a long bitterly cold winter.

The best varieties that he found there are the ones we list below. They have now been tested, principally in Dakota, for a number of years. We also are testing them in our trial grounds, and many of our customers are working with them. At present they give promise of being extremely valuable; more valuable even than the Grimm. We do not, however, want our customers to plunge into growing them without carefully testing first, because no one has given them a sufficiently long test as yet to be positive today just what the final results will be.

Cossack This variety is, at present, perhaps the most important one, simply because there is a little more seed of it available than of the others. It is a hybrid, a cross between yellow and purple-flowered varieties. The result is a bewildering variety of colors in its blossoms. Some are purple, some are clear yellow and some have every intermediate shade. The main plant closely resembles the Grimm. The root is nearly like the Grimm, and the crown is also similar, although the crown looks larger to me, in some cases being fully fifteen inches in diameter and submerged as with the Grimm.

In our trial grounds the Cossack seems to outyield the Grimm by perhaps 15 per cent. This variety is supposed to be fully as hardy as the Grimm and is therefore one of the hardest in the world.

In order to encourage our customers to test these new varieties out in small quantities, we offer this seed as follows: Pkt., 10c; oz., 25c; lb., \$2.00.

Cherno This variety so closely resembles the Cossack that I can see no difference between them whatever, and really think the two should be thrown together. Price, pkt., 10c; oz., 25c; lb., \$2.50.

Sempalatinsk It was hoped that this variety would make a pasture plant on the great western arid plains. I do not know how well it will succeed, but I rather question its becoming as important in the Corn Belt as the other varieties which we are selling.

Its general characteristics are the same as the Grimm, but the plants are larger and coarser, and I think that on rich ground it will be a little too coarse to make good hay. Price, pkt., 25c; oz., 50c; lb., \$5.00.

Orenberg No one knows yet how important this variety will become any more than we know to a certainty about the other Siberian Alfalfas, but I have seen lots of Alfalfa in all parts of the country, and unquestionably this variety is the most remarkable one in some of its characteristics that I have ever seen.

In the first place its underground root system is different from any other. It practically has no tap root at all. A few inches under ground its roots fork in all directions. Some of them go down, I presume, rather deeply; others at a depth of about 8 inches run horizontally, and from time to time send up new plants. The photograph which we give shows a portion of one of these plants. Our grower says that the last "baby" in this family was fifteen feet from its mother. The plant was about four years old. When I saw these plants a year ago, the greatest distance that I could find was about seven feet from the parent plant to its farthest offspring. At that time the parent plant had made a solid mass of its crown, this being probably a little over two feet in diameter at the surface of the ground, and probably containing something over five hundred stalks.

The stalks themselves are finer than common Alfalfa, smaller and more wiry in appearance, although no more woody that I could see than common Alfalfa. Possibly they did not grow quite as tall as common Alfalfa, but such a mass of forage on a few square feet as was produced by one of these plants I have never seen before in any kind of Alfalfa, no matter how thickly planted.

The crowns appear to be 4 inches under ground. This fact, and the peculiar root, would make this variety absolutely impossible to freeze or heave out of the ground. While the stalks were smaller than common Alfalfa, they were also more leafy, the leaves being clustered thickly clear to the ground.

This variety is only expected to make two cuttings a year in the Corn Belt. Our grower makes two cuttings in Dakota, and his season is shorter than ours. It is, however, slow about recovering, and he thinks we will probably secure only two good cuttings here. He says, however, that he would sooner have two cuttings of Orenberg than three of any other variety, and we believe he is right. However, we are asking our customers to do nothing but experiment with this variety. We are testing it ourselves as

carefully as possible under varying conditions, and all of us will know more about it in a few years.

The seed of Orenberg is the rarest of any important new variety of Alfalfa, and prices are therefore extremely high. We quote packets containing about $\frac{1}{4}$ oz. at 25c; oz., 50c; lb., \$5.00.

Breeding Alfalfa Partly through our own efforts and partly through the earnestness of the best farmers throughout the country, much interest is being taken today in the new varieties of Alfalfa, and many of our customers are giving the matter considerable thought. This brings up a perplexing subject concerning which we wish to offer some suggestions. In the first place, bear clearly in mind the fact that Alfalfa is an open or cross fertilized plant; that it is fertilized by insects flying, in many cases, for two or three miles. In order to prevent it from being cross fertilized, you would have to screen your plants. Naturally this, especially on any large scale, is impractical, and we must therefore let Nature follow out her own course.

It is supposed that Grimm Alfalfa receives not only its peculiar colored blossom, but much of its hardness and doubtless its tendency towards a forked root from a yellow-flowered wild plant with which it hybridized perhaps a hundred years ago. The yellow-flowered blood in this case was very valuable, and we are all glad the cross occurred. Cossack and Cherno are both hybrid varieties with a free admixture of yellow-flowered blood. Sempalatinsk, as introduced into the United States, was a clear yellow-flowered variety. Today American-grown seed shows hybrid qualities—purple, yellow and all gradations between.

The same thing is true of the Orenberg. You will find today, in American-grown seed, the flowers running some yellow, some purple and intermediate stages. Immediately the question arises, "Is this hybridization going to ruin our new hardy varieties? Will they lose their hardness and their other valuable characteristics by crossing with common Alfalfa all around them?" This question has never been answered by the scientists. Maybe they never thought of it, but the nearest thing to an answer we can readily reason out ourselves.

Grimm Alfalfa was brought into the United States seventy years ago. It was a distinct, although hybrid variety, at the time of its introduction. During all the years that it has been here it has been surrounded by common Alfalfa at all times, and yet, so far as I am able to ascertain, its vital characteristics have not changed.

In all breeding operations, there are certain characteristics called dominant. The white face of the Hereford is a dominant characteristic; so is the black coat of the Angus. It would seem very probable that with the Grimm Alfalfa its most useful characteristics had been dominant in the blood and would remain fixed for all time. It would seem reasonable to suppose, also, that the same useful characteristics which are found in the Cossack, Cherno and Sempalatinsk—that is, the form of root and crown and quite possibly the yielding ability—might be dominant and stay with us just as well as the Grimm qualities have. It would seem as though the Orenberg with its wonderful root system, its splendid crown and remarkable foliage, might be expected to retain these qualities indefinitely. The color of the blossom, in my opinion, is not a dominant characteristic and may be expected to gradually change with years, although I would not expect the yellow to be ever entirely obliterated. We are not growing these plants for the blossoms and therefore this matter does not worry me.

As to the hardness, we have less data to go by. It is true that Grimm Alfalfa is fully as hardy today as it was seventy years ago. In fact, for all that I know, it may be even harder, but it has not had much of a test in this way, since all this time it has been grown in the bitterly cold regions of the Northwest, where other varieties of Alfalfa were pretty sure to perish. If the Grimm were grown in Arizona for ten years, I think it possible that its hardness would be materially lessened. No one has tested this out carefully, but I think that most of the Alfalfa experts agree that theo-

retically even the Grimm, hardy as it is, would suffer in this respect if it were grown in the southern states. This matter is not of the greatest importance in the world, however, because we can easily grow enormous quantities of the seed in the rigid climate of the Northwest, and thus maintain the very great hardness of these strains.

It may interest our readers to know that our grower in Dakota operates a large ranch and grows nothing except "Dakota 30," Grimm and the Siberian varieties. Therefore his seed, while it would unquestionably be freely hybridized, would be crossed with nothing but the hardest seed that exists in the world today. We believe there is no other seed produced anywhere that can claim these advantages.

Turkestan We have intentionally left this variety to the last, because it should rightfully be the least important Alfalfa known today. Our customers, who have used it, complain bitterly that it makes only half the growth of common Alfalfa and nearly always, as soon as they find that they have it, they plow the meadow up.

It was brought in by the U. S. Government perhaps fifteen years ago under the hope that it would prove more drought resistant than common Alfalfa. However, even the U. S. Government today discourages its growth. We tested it out fifteen years ago, and for us it seemed to yield not more than half what the common did. It is a measly, puny variety that deserves no place whatever in American agriculture. Unfortunately, for some years its seed was easily obtained and low in price. The result was the importation of very large quantities and countless farmers bought it, not knowing what a worthless thing they were getting. Most of the Experiment Stations have issued warnings against it, and there is not much excuse now for any one being ignorant concerning this variety.

Educational Packets Over the entire country today men are wanting to try out the new varieties of Alfalfa. In order to make it most convenient for them and as little expensive as possible, we have prepared a collection including the Cossack, Chernob, Orenberg, Semipalatinsk, Grimm; also including Turkestan, "Dakota 30" and Melilotus Alba. These packets should be planted in your garden, and you will learn about as much from them as you need to know in order to be sure whether you want to grow these new rare varieties or not.

The price of a set of the educational packets is \$1.00.

ALFALFA PLANTS

We have made arrangements with the same grower who furnishes us with the Siberian seed to furnish plants also. These plants can be set either in the spring or the fall. October and November are good months. April, May and even June are reasonably good.

In the arid states, planting of entire fields with one-year-old plants is to be recommended. In the Corn Belt we think that for the entire fields it is unquestionably better to use seed. Plants, however, will frequently succeed in difficult places where seed would fail, and also the rare new varieties can be purchased in form of plants to considerable advantage, making success reasonably certain.

When setting, have your ground plowed and reasonably well fitted. Cut off all but about five inches of the root. Set rather deeply, covering the crown two inches. Inoculation when setting plants is not as necessary as when sowing seed. Press the earth firmly around the plant, and it is usually advisable to water a little while setting.

Our prices are not prepaid.

The plants will not be shipped until planting time, which may be either from April until July, or from October until the ground freezes. When the plants reach you, open them, moisten slightly, and if not immediately ready to set, heel in in moist soil.

PRICES.

Grimm, one-year plants-----	100	\$0.75
Grimm, one-year plants-----	500	3.00
Grimm, one-year plants-----	1,000	5.00
Cossack, Chernob and Semipalatinsk-----	100	1.25
Cossack, Chernob and Semipalatinsk-----	500	5.50
Cossack, Chernob and Semipalatinsk-----	1,000	10.00
Orenberg, limited supply-----	100	2.50
Orenberg, limited supply-----	500	12.00
Orenberg, limited supply-----	1,000	20.00

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M. R. GRINNELL, Yellow Springs, Ohio.

CARE OF ALFALFA MEADOWS

Thickening a Thin Stand It is very difficult to thicken an unsatisfactory stand of Alfalfa by any method that we know. Usually it is better not to try. However, if you are anxious to make the experiment, we would harrow the meadow with an Alfalfa harrow after removing the second cutting and would then sow more seed. The reason for doing it in this way is that the young Alfalfa will not be clipped so often handled in this way as it will if you sow early in the spring.

Clipping a Young Meadow The first year that Alfalfa is seeded, the less it is clipped the better off it is. If seeded in April with a nurse crop it will usually, although not always, require one clipping after the nurse crop has been removed. If seeded in June or July, it is not always necessary to make one clipping. There is not the slightest danger of the Alfalfa's choking itself out, and it should in all cases go into winter with a growth of at least eight inches of woody stalk to hold the snow through the winter.

Pasturing We do not believe in pasturing Alfalfa with anything except horses or hogs. Both cattle and sheep are much inclined to bloat on it, and you are pretty sure to have some losses. Hogs and horses may be pastured quite safely, but, especially with horses, we do not advocate pasturing without some qualification, because we believe that Alfalfa never does its best in the Corn Belt except when it is mowed. We think when pastured its total yield is materially reduced.

Time to Cut Alfalfa After your meadow has gone through the first year, with a beginner it becomes a question of when he should start the mower, and there is one simple rule which is more dependable than any other; that is to watch for the buds starting up from the crown. When these appear and are perhaps an inch long, it is nearly always time to start cutting. If you cut before this you may very easily ruin the meadow permanently. When these buds start, the probabilities are that your Alfalfa will be showing some bloom and will have practically stopped growing. The buds indicate that the next crop is ready to start. If you wait too long after this time, there is danger of mowing the tops off of these little shoots and injuring the plant when you do so.

Harrowing Alfalfa During the course of the year, hundreds of men ask us what to do about harrowing their meadows, and to give what we think on this subject, thereby answering their questions in advance, we are writing this paragraph. There are three reasons which have been advocated for doing this work. First, it was claimed that if the stand were thin the use of a disk harrow splitting the crowns caused the crowns to enlarge, and had the effect of thickening the meadow. Second, it was claimed that harrowing or cultivating the plants conserved the moisture and increased the crop. Third, it was claimed that harrowing killed some weeds and most of the foreign grasses which were getting started in the meadow. Let us consider these theories a little in detail.

The first one, we think, is entirely wrong, especially in the humid states, as it never did appeal to us to mutilate a plant in order to make it thrive more, and very careful study of the subject has convinced nearly everybody now that this mutilation is unwise, since it invites different forms of fungus growth which attack the bruised plants and injure or destroy them. The second theory, that of cultivating the plants to conserve the moisture and increase the yield, has not been worked on sufficiently, we think, to be thoroughly demonstrated. It must be remembered that the root system of Alfalfa is pretty deep in the ground, that no lateral roots will be found quite close to the surface, as in the case of corn and many other of our crops, and therefore that the surface soil's being mellow is not as vitally important as it is with these other crops. It must also be thoroughly borne in mind that even with the most modern Alfalfa harrows there is a tendency to bruise the plants a little. The roots will be bruised a little and so will the tender young shoots. Both of these matters will partly offset the benefit that could be expected to arise from having the soil stirred, and to be perfectly frank in the matter, I do not believe that any of us who have extensive farming operations to conduct can take the time to harrow or cultivate Alfalfa for the sake of the benefit that we expect to get from stirring the soil and retaining the moisture. The matter of harrowing Alfalfa in order to kill weeds and grasses is, to my mind, practical and wise, and this is the one thing that we have always recommended doing. Kentucky Blue Grass, pretty much anywhere in the Corn Belt, is likely to come in, and if left undisturbed, finally kill the Alfalfa. Foxtail is always troublesome, and the use of the Alfalfa harrow to overcome both of these pests is absolutely all right. We would ordinarily use it after either the first or second cutting, and we would not set the harrow to go in more than two inches in depth, simply because we think it injures the Alfalfa plant more if you go deeper.

There are two excellent implements on the market today for conducting this work. One is made by The American Seeding-Machine Company, Springfield, Ohio, the other is made by Bucher & Gibbs, Canton, Ohio.

Fertilizer The question of fertilizing Alfalfa is of the very greatest importance and one to which we have devoted many years of study. We began by using different fertilizers at time of seeding. Later we tried top-dressing meadows with different fertilizers, and after using many carloads of different kinds of fertilizer, both at seeding time and as top dressing, we have reached certain conclusions which we are glad to give to our customers. In the first place bear in mind the fact that Alfalfa dearly loves alkaline conditions, and that any form of acidity is more or less poisonous to it. In the second place do not forget that Alfalfa secures its own nitrogen from the air; in fact, secures more than it needs, storing it in the soil for the benefit of future crops, therefore it is unnecessary and usually extravagant to purchase nitrogen or ammonia, which is used for its nitrogen-bearing qualities, for fertilizer for this plant.

On the question of potash we have no very positive data, or rather, our tests, both in large fields and in carefully conducted trials in our trial grounds, have not clearly indicated a gain from the use of potash, excepting on muck soils. The Ohio Experiment Station in very carefully conducted tests has found a benefit from the use of potash.

The matter of phosphorus, however, is quite different, and very extensive and long-conducted tests have clearly proven to us that phosphorus in liberal quantities pays every time when used on Alfalfa. Even our richest fields, those that have been heavily manured for a third of a century, show liberal and satisfactory responses today from good applications of phosphorus to our Alfalfa meadows. I would say unqualifiedly that I do not believe there is hardly an acre of ground east of the Missouri River which will not respond satisfactorily to an application of the proper form of phosphorus when growing Alfalfa. Now, as to the proper form of phosphorus to use, we believe that we have conducted larger and more complete tests along this line than anybody else in the United States, as we have

been working on this subject for fifteen years and making large as well as careful tests.

Rock Phosphate Unquestionably the cheapest form of phosphorus today is that of rock phosphate. This material is simply a phosphate carrying rock untreated with chemicals, but very finely ground. It is Nature's own source of supply and is present in varying degrees in all of our soils. It is a fertilizer that can be recommended under certain conditions, but it must be clearly borne in mind that the untreated rock phosphate must have either a chemical, soil acids, or the acids from decomposing vegetable matter, in order to liberate its phosphorus. If you applied a ton to the acre on top of the ground without mixing it into the soil and without the addition of manure to liberate its phosphorus, you would be likely to receive almost no results whatever. I like to use rock phosphate in the trenches behind my cows and mixed freely with all my manure. Used in this way it is a satisfactory and economical fertilizer and one that I think is destined to become more important in the future than it is today; used without manure, as we would some fertilizers, I think almost every one will be disappointed.

Acid Phosphate Acid phosphate is simply the raw or unburned phosphate rock, to which has been applied enough sulphuric acid to make the phosphorus readily available. It is one of the quickest fertilizers we have and is probably used more today than any other fertilizer sold in the United States. It has in its favor both quickness and a comparatively moderate price. If I were a tenant expecting to stay only one year on a farm, I would use acid phosphate freely. If I expected to be more than one year on a farm, I would prefer other forms of phosphorus-carrying material. The reasons for this are: First, because when used with any legume crop, the free acidity which is always present in acid phosphate is injurious to the crop, and second, because after one year's time acid phosphate reverts in the soil and becomes very slowly available. You can scarcely find a farmer anywhere who claims that he can see any results from acid phosphate in the way of increased crops after one year's time. The reason for this is simply that after one year it is reverted and becomes slowly available.

Bone Meal As compared with acid phosphate, I consider bone meal decidedly superior. It does not revert and therefore one may safely place a three or four years' supply on his field, knowing that it will become available year after year and be right there ready for the plants to use, while acid phosphate should be applied every season, or else there is an economic waste from its reverting. In the second place, with the exception of one form of acidulated bone, a form which is not generally used, bone meal contains no acidity whatever. Some farmers think they cannot afford to sow bone because it costs much more for a ton than does acid phosphate. If they will figure a little they will see that this point is not well taken. Supposing that 16% acid phosphate is worth about \$15.75 per ton delivered at your station. This figures 98c per unit of phosphoric acid. If that were the price on the acid phosphate, the probabilities are that you could buy bone meal carrying 2½% ammonia and 27% phosphoric acid for about \$30.25 per ton. The ammonia is worth about 15c per pound, or \$7.60 worth would be contained in a ton of the fertilizer. Deducting \$7.60 worth from \$30.25 leaves \$22.65, the cost of 27% phosphoric acid. This is about 84c per unit. Or, if you think 2½% ammonia is too much to buy, the probabilities are that you could secure a brand carrying 1% ammonia, 29% phosphoric acid, at the same price as mentioned, that is \$30.25. In this case you would have 20 pounds of ammonia per ton worth \$3.00. Your 29% material would thus cost you \$27.24. This figures about 94c per unit and is still cheaper than the acid phosphate with which we started. In addition to this your bone meal analyzes almost twice as high as the acid phosphate, requires only one-half the labor in hauling and applying to the soil that the bone meal does, a ton of it going about as far as two tons of acid phosphate.

Basic Slag Basic slag is a by-product of steel manufacture. The best brands contains from 17 to 19% phosphoric acid, 35 to 50% of lime. Of course there is no acidity about it. It is practically as quick in its action as acid phosphate, although there may be a few days' difference between them. It does not revert, and long time tests with it have given us splendid results. No fertilizer that we have ever used has given us quite the rich, dark color to Alfalfa that Basic Slag has. It is of German origin, consequently at the present time scarce and practically unobtainable, although we happen to have a moderate amount, possibly all that is in the United States, stored in our warehouse now. This material is not only not acidulated, but carrying 35 to 50% lime it adds to the alkalinity of the soil, and in this way becomes an ideal fertilizer for Alfalfa, or, we might say, for any legume crops. As it does not revert it possesses the same advantage as the bone meal. It can be applied heavily with a certainty that it will all be right there on hand for the plants when they get ready for it. This point alone (and perhaps especially in the case of Alfalfa) is of the greatest importance, and in order to show you just how important it is, we are giving a couple of photographs which clearly bring this matter out. The photograph on page 3 shows one of our Alfalfa meadows which received an application of 400 pounds acid phosphate per acre. With only a rod separating the two fields and no difference worth mentioning in the natural character of the fertility of the soil, the photograph on page 3 represents another of our Alfalfa meadows, treated at the same time with 400 pounds of basic slag. The amount of fertilizer actually contained in each application was, as you will see, practically the same in the one case as in the other. These photographs were taken at the third cutting this year (1915), and the results were more striking than can really be brought out in a photograph. The field on which basic slag was used apparently yielded on this cutting three or four times as heavily as the field on which acid phosphate was used. Furthermore, the basic slag field was of a beautifully green color, while the acid phosphate field was rather yellow. There was no difference at all in the treatment of the two fields prior to this cutting, excepting in the matter of fertilizer used, estimating the difference in yield on this one crop at even one-half ton per acre, whereas, apparently, it was much more than that. As in the case of the basic slag, we have apparently a gain of \$6.00 per acre, while the original application of fertilizer cost only \$4.30. Neither is this one test by any means the only one that we have nor are its results in any way different from other carefully conducted trials along the same line. Every time we have secured much better results with the basic slag than we did with acid phosphate. We used the slag both when seeding down Alfalfa and as a top dressing a few years after seeding. Used in the latter way, three to five hundred pounds per acre is our usual application, and we simply apply this with a disk drill, letting the disk run into the ground reasonably well.

Basic slag should also be mixed with the soil somewhat. If applied to the surface of your meadow, harrowing is beneficial. American made basic slag has been tried, but in the past has always proven very unsatisfactory.

Alfalfa Hay Alfalfa Hay is, in our opinion, more easily made than any other hay, and there is nothing difficult or intricate about handling it in any way. I like to cure my own mostly in the shock, but if you wish, you may cure somewhat in wind-row. As soon as possible and when little more than wilted, it must be raked or else the leaves become brittle and fall off. In hot weather you can sometimes start raking only four hours after the mower has started. My ordinary method is to rake just as soon as the rake will run and do clean work. Then I put it into moderate sized shocks, let it stand about two days, let it out to the sun and air for a couple of hours and then put into the barn. Do not put into the barn when there is sap in the stalk. Spontaneous combustion, either from this or from any other clover, frequently results when this is done.

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This process is called the Nobbe-Hiltner Process; the product is called "NITRAGIN," the trademark name that distinguishes the original Nobbe-Hiltner Pure Culture from imitations all over the world.

Always look for these names. If they are on the can you are getting the **original** and the **best**. **Don't risk your money on imitations.**

"NITRAGIN" Pure Culture is packed in a granular medium, in a ventilated tin can. Packing date is marked on each can. The Armour Fertilizer Works positively guarantee the health, strength and virility of the germs for six months from date of packing.

The Nobbe-Hiltner improved method of packing "NITRAGIN" Pure Culture in granular form, and sending it to the farmer in ventilated tin cans, is the safe and certain way. Because of this method and the nature of the medium the manufacturers are enabled to guarantee life, strength and virility of germs for **six months** from packing date.

"NITRAGIN" Pure Culture has been used in Germany for 17 years. Last year it was used on more than a million acres. This year you should use it on **your** Clover, Alfalfa, Cow Peas, Soy Beans, Vetch, Field Beans, Garden Peas and Beans—in fact on **all** legumes.

Remember, each legume requires its own particular kind of bacteria. A special strain of "NITRAGIN" Pure Culture is prepared for each legume. In ordering be sure to name crop desired.

Soil inoculation by "NITRAGIN" Pure Culture simply means **seed safety** and **crop insurance**. It is **not** expense, but an **investment** which will yield twenty-fold returns. No mystery about it. Simply billions of strong, healthy germs, guaranteed for six months. Your legumes must have these germs to draw nitrogen from the air. Easy to apply—a boy can do it. Just add water and mix with seed—let dry—plant as usual.

New Jersey Agricultural Experiment Station. Bulletin No. 226.

"The weight of dry matter in the inoculated crops (Alfalfa) amply demonstrated the culture of "NITRAGIN" employed for inoculation was very satisfactory for the purpose for which it was intended." (Alfalfa yield increase due to "NITRAGIN" was 500 per cent. Beans increased 75 per cent. Lima Beans and Cow Peas more than doubled.)

Prices: Garden size, \$1.00 per can; acre size, \$2.00 per can; five acre size, \$9.00 per can. F. O. B. Mechanicsburg. Express extra. Parcel Post, 10 cents per acre extra.

Order "NITRAGIN" with your Seeds.

WING SEED CO., Mechanicsburg, Ohio

INOCULATED ALFALFA SOIL

We are at all times in position to furnish soil from an old Alfalfa field that is thoroughly inoculated. Price, \$1.00 per 100 lbs., 75c. per 100 lbs. in lots of 1,000 lbs. or over. We would also refer customers who live in territory more adjacent to Cambria County, Pennsylvania, to Dr. H. Somerville, Chester Springs, Cambria County, Pennsylvania. Dr. Somerville sells inoculated soil for Alfalfa at 75c per 100 lbs., or \$10.00 per ton.

LIST OF LIME MANUFACTURERS

*The Interstate Stone Company, Lewisburg, Ohio. Interstate brand, 94-90 per cent. Calcium Carbonate.

*The Security Cement & Lime Co., Baltimore, Washington, Pittsburgh; Main Offices, Hagerstown, Maryland.

*The France Company, No. 1800 Second National Bank Bldg., Toledo, Ohio.

The National Lime & Stone Co., Carey, Ohio; Hydrated and Agricultural Lime.

Haserot Lime & Phosphate Co., 415 Huron Road, Cleveland, Ohio; Carbonate of Lime.

*The White Sulphur Stone Co., Marion, Ohio; works at White Sulphur, Ohio.

*The Charles Warner Co., Philadelphia, New York, Boston; Executive Offices, Wilmington, Del.

*The Fischer Lime & Cement Co., Memphis, Tenn.

*The Ditlinger Lime Co., New Braunfels, Texas; also manufacture Hydrate and Fertilizer Lime.

*Ladd Lime & Stone Co., 1023-29 Healey Bldg., Atlanta, Georgia.

*Handle Ground Limestone Rock.

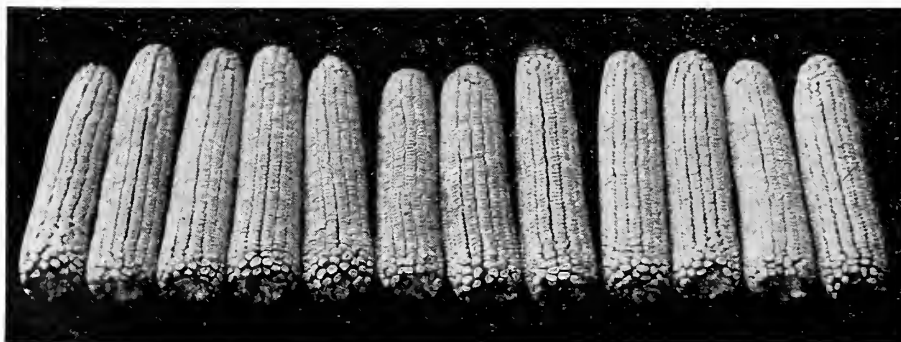
CORN



A breeding block of Wing's Improved White Cap Corn.

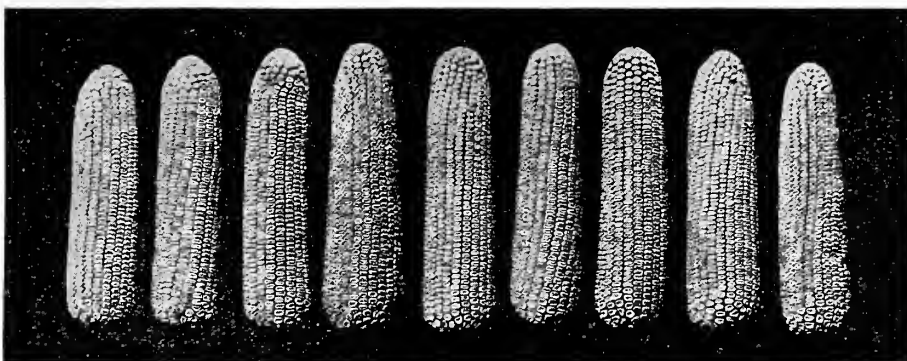
ALFALFA AND CORN go well together. The biggest yield of corn you ever get comes when you plow an Alfalfa meadow. The biggest gain you ever get on your stock is when Corn and Alfalfa are combined together in your feed. Maximum yields of corn come only on rich, well cared for soils and well bred seed corn, but even fifteen years of teaching by men like Holden and our great experiment stations have failed to always convince farmers of the importance of corn breed-

ing. A result of this is that many of them do not even ask seedsmen for corn that is well bred. Another result is that many farmers continue picking corn from their own fields year after year without doing any ear row test plot work at all. This matter is of vastly more importance than some farmers realize. Individual ears of corn possess an individuality comparable with that of your pedigreed live stock. Not one of you would hesitate about acknowledging the value of breeding in your live stock, and there



WING'S IMPROVED WHITE CAP CORN.

Three acres of this variety has yielded for us one hundred and forty-seven bushels per acre.

**FUNK'S YELLOW DENT.**

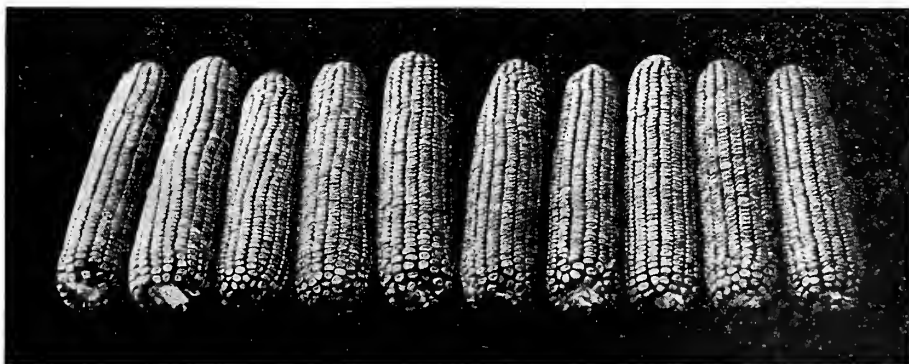
There should be no difficulty whatever in obtaining on good ground a yield of one hundred bushels or over of this corn.

is no difference at all between the principles involved in the live stock and the corn. For over fifteen years we have been breeding our corn by ear row test plot methods, and we would as soon think of abandoning farming itself as of abandoning this principle. All of the corn that we sell is handled by this method. Each year we have out very large ear row test plots, multiplying plots and variety test plots, in which we make the most careful comparisons between different ears as well as different varieties of corn. We test everything good that we can get our hands on and gradually we have reached a place where our own corn that we have been breeding now for years (the varieties which are listed later on in this chapter) are giving us better results than anything that we can bring in from any of our neighbors.

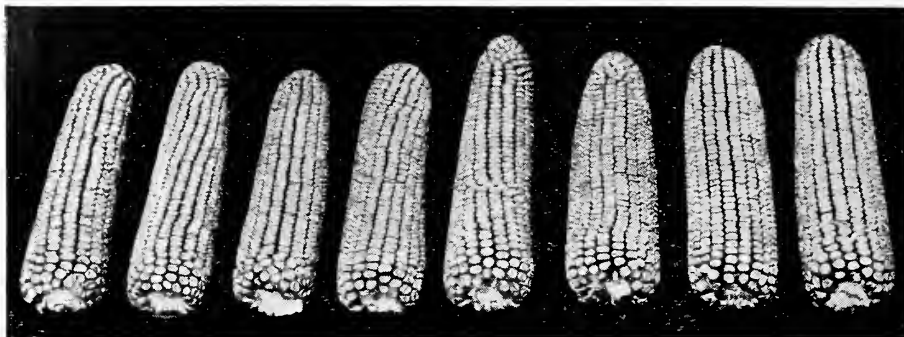
Now, as to our method of handling the corn. We select from the fields early in the fall, before heavy frosts, bring into our steam heated warehouse, and thoroughly dry on the patent wire hangers. Experts do the selecting in the field, and after it is dried, experts again discard any ears which have not preserved an appearance of high type when drying. On our shelled corn the butts and tips are first shelled off by hand and discarded. This corn is then shelled and run through the best grader that is made in the United States. Our corn in grading will compare favorably with anything that can be found anywhere. As we shell, we constantly test for germination. As a matter of fact, we never have any trouble now with germination, and are always very easily able to guarantee a germination of 95 per cent. Throughout all of our work we constantly weed out the corn that is too late to mature for our customers. This, together with the constant care and work which we put in on the corn, places our seed, we think, superior to most and equal to any corn that is offered anywhere in the United States. About five-sixths of our customers want

their corn shelled and graded, and it has been our custom for some years to shell up about this proportion early in the season before our rush begins. There is absolutely no difference between the quality of our shelled corn and our ear corn, and you will note that we charge the same price for both.

Ensilage Corn We have used ensilage on our own farms for many years and think we have studied the question from every angle. Our conclusions are that in the first place we want, of course, a reasonably heavy yield of corn to go into the silo, but that with us it is of vastly more importance to have the corn of proper quality rather than to have a yield only. We have used big Southern Corn with stalks as large as a strong man's wrist, growing probably fifteen feet or over in height, and we have used many varieties of moderate sized corn. We would not have the Southern Corn at all now, simply because while the gross tonnage per acre is quite large, these mammoth stalks are not eaten by any of our stock. We, therefore, have to have a rather expensive building that is occupied to, say one-fourth or one-third its capacity, with big stalks which nothing will eat; we are to a heavy expense putting the crop into this building; to a further expense taking it out and feeding it; to a still further expense in hauling the refuse out for manure, and after all, about all that we have accomplished is a field of corn that is big. There has been an economic loss along the entire line, and we are entirely through handling corn in this way. What we actually try to do is to eliminate this economic loss; in other words, to put corn into the silo in such condition that it is all relished by our animals. When we accomplish this we have no loss of room in the silo and no waste labor anywhere along the line. We do accomplish this result at a very moderate expense and in a very easy manner. We take as leafy a foddered variety as we have and one with ordinarily a stalk not too large

**120-DAY YELLOW.**

One of our customers in New York State grew one hundred and twenty bushels per acre. Some of our own fields are yielding one hundred and twenty-five, but we feel that this yield can be surpassed in Ohio, if the corn be given proper advantages.



CLARAGE.

This corn at present is yielding right alongside of all of our other yellow breeds.

in diameter. We plant this as thickly as we possibly can; are now using over twenty pounds of seed per acre, sometimes nearly twenty-five pounds with certain varieties. This gives us a stalk about every five inches. The yield per acre satisfies us, being greater than we would secure if the corn were planted farther apart, and the stalks come to the cutter, the largest of them not more than twice the size of a strong man's thumb. We have been breeding one variety of our corn especially for silage purposes. This is our 115-Day Yellow, which is described later. Several other varieties do nearly as well, but we handle no southern ensilage whatever, and would not allow them to be planted on our farms even as a gift.

Wing's Improved White Cap This variety we began work on before we ever dreamed of selling seed corn at all, and we never offered an ear of it until it had been through many seasons of test plot work. It is one of our very heaviest yielders; sometimes in variety plot outyielding every other variety we have, and frequently doing so in large fields. We rather believe that, taking the state over, this variety will outyield any and every breed of corn grown in Ohio today capable of maturing before frost, as our White Cap does. It has fodder of about average height, rather sturdy. It has ears of more than ordinary length, about sixteen rows to the ear; the grain not pure white, but tinged with yellow, from which it derives its name. It needs one hundred and twenty days in which to mature. With us it seems to do very well indeed, either on our richest ground or on rather poor ground. It makes beautifully solid corn, free from chaffiness, and the elevators ordinarily say that it is the best corn that they take in. We do not advise farmers to grow it, at least on a large scale, in the northern part of the state, except right along Lake Erie, where the conditions are ameliorated by the lake itself, and where it is apparently perfectly safe. It has medium sized cob and a good depth of grain. Not a "pretty corn," but it certainly does yield.

Wing's 100 Day White A pure white variety on which we have worked for sufficient time to obtain now excellent uniformity and splendid type. It has the smallest fodder of any variety

we sell; ears of moderate length and size, splendidly formed, very well covered over, butt and tip; very heavy and nice quality; matures for us in about one hundred and fifteen days; excellently adapted to poor soil and a short season; an excellent yielder. This variety has all the virtues of Clarage in a pure white corn.

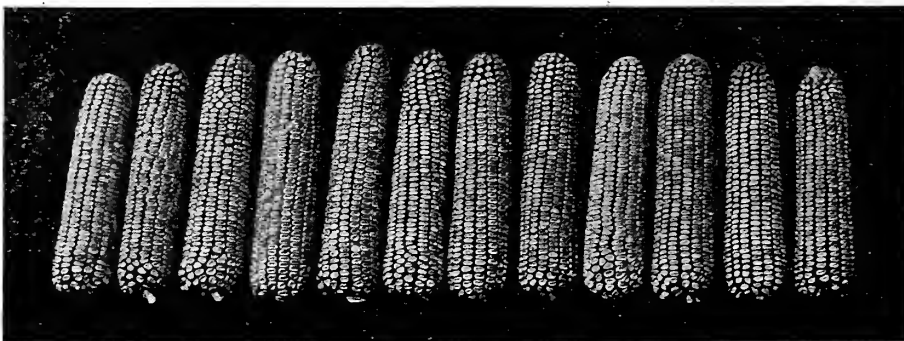
Funk's Yellow Dent This variety has a trifle the largest fodder of any yellow corn we handle; matures with Wing's Improved White Cap and yields about the same. It is the earliest strain of Funk's Yellow Dent that we ever saw, and for us never is caught by the frost.

Wing's 120 Day Yellow Medium-sized fodder; ears medium-sized, with splendid quality of grain; matures for us in one hundred and fifteen days; yields nearly as much as White Cap. We can recommend this variety for planting north as far as latitude 42 degrees. It does well in southern Michigan; very well indeed in New York state. It is one of our favorites and we think very hard to beat.

Clarage This variety compares well with our 120-Day Yellow; matures at the same time; generally yields about the same. It has a different type of grain and sometimes seems to do better on poor ground than the 120-Day. It is a splendid early variety, very dependable, and thrives north to 42 degrees.

Wing's 115 Day Yellow The deepest grained corn we grow; matures in one hundred and twenty days; in some respects the best variety for ensilage that we have, maturing at about the right time; the stalks tall, slender and quite leafy. This is the variety we use ourselves from preference for ensilage.

Minnesota 13 This corn matures for us three weeks ahead of the White Cap, making beautifully sound corn of good quality. It is the best very early corn that we have ever seen, and for this purpose we doubt if anything else in Ohio equals it. It yields for us quite well. We consider it invaluable for hogging-off early, before the late corn is ready, or for any other purpose where a particularly early corn is needed. We keep our stock early by growing it in northern Ohio, and also by selection.



MINNESOTA 13.

SOY BEANS



A large field of Wing's Pedigreed Sable Soy Beans.

THE INTRODUCTION of Soy Beans into American Agriculture marks a decided advance and we are proud of the fact that just as we were the first to push Alfalfa in the Corn Belt, we were also the first to push the Soy Beans in that territory. We are also proud of the fact that after having tested all of the important varieties sent out by the Government as well as secured from other sources, there are, we believe, no other varieties of beans sold in any large quantity throughout the Corn Belt, excepting those which we ourselves have been pushing. Beginning fifteen years ago to grow these beans on a small scale on our farm, we gradually acquired experience with this plant, and a few years later when the Government began importing large numbers of new varieties, we carefully and thoroughly tested many of those that seemed likely to succeed in this territory until now we have experimental data of our own covering every promising bean that we know anything about. The result of these years of experimental work is that we can offer to our customers varieties which have already passed the experimental stage and which are certain to be the best adapted to our territory. In addition, we were the first American seed firm to pay any attention at all to establishing pedigreed selections of this plant. We will describe this work in more detail a little further on.

The Soy Bean is simply a wonderful plant and one that is unique in American agriculture, combining good qualities found in no other plant grown. In the first place its grain carries the highest per cent. of protein and fat of any grain produced in the United States, analyzing richer than oil meal, nearly as rich as cotton seed meal, far more digestible than either one, and much more palatable. In the second place its forage, by chemical analysis, compares favorably with Alfalfa itself, although in digestibility and palatability the Alfalfa would probably be superior. In the third place it is, in our opinion, one of the greatest soil builders we have, provided it is inoculated, and then that it is returned to the soil in the form of manure. In the fourth place it does well on poor ground, rather better in our opinion on soil of moderate fertility than on very rich soil. It is remarkably useful as a catch crop,

there simply being no comparison between its value and that of millet for this purpose, and it is useful as ensilage when made in connection with corn.

As a grain crop it will compare favorably with any crop we grow. You can count on twenty bushels per acre, which, analyzing higher than linseed oil, should properly be worth at least two cents per pound and probably more than that. In addition, when threshed for grain the straw is decidedly good feed, comparable in our tests with reasonably good clover hay. It is simply surprising to see how the stock do love this straw, and they thrive on it excellently. It is a fine crop for hogging-off in connection with corn, and hogs will thrive on it better than on any other grain that you can find. It makes hay that is a trifle coarse and trifle difficult to cure, but where one is short on hay and needs a quick-maturing catch crop for this purpose, its chemical analysis is so high and its palatability is so great that its faults may easily be overlooked. I think a yield of two tons per acre of dry hay could be counted on, and I think the value of it would probably be greater than that of medium red clover. For ensilage, when mixed with about three parts of corn to one of beans, excellent results may be counted on, and used in this way, a yield of ten tons per acre is not excessive.

Planting and Cultivation Soy Beans require, first of all, the best kind of seed bed. In this respect they are as particular as any plant we know of. The soil should be plowed and carefully fitted, leaving the surface for an inch mellow and free from clods. The seed should be just

barely covered and no more; one-half inch deep is ample, and if covered one and a half inches, the probabilities are that you will seriously injure the crop. Incidentally, we would say that this plant seems to love a little sand in the soil. Some of the most beautiful fields we have ever seen were on such soil, and possibly one reason for this is, that it is easy to obtain a perfect stand on this kind of soil. For planting we use either a Black Hawk Corn Planter or a Superior Grain Drill. Either tool gives us satisfactory results. When using the grain drill we remove all but three of the spouts and cap the outlets on all except these three. We space the rows 28 inches apart with this machine, and that permits reasonably easy cultivation. We have carefully tested different widths of cultivation, these tests ranging from rows 15 inches apart to rows 36 inches apart. The highest yield seemed to be at about 30 inches.

As to the amount of seed, different varieties will differ and also, in our opinion, it may require different amounts on different soils. Sandy soil or mellow black soil requires, in our opinion, less seed than heavy clay soil that is inclined to crust over the plants. Ordinarily on our farms, which contain a large proportion of heavy clay soil that crusts easily, we have used from fifteen to twenty pounds of seed according to variety, and this has proven to be about the right amount. On the other hand, we inspected a field this summer grown on soil that was just a trifle sandy, and where only about seven pounds per acre of our new Pedigreed Sable seed was used, the result being simply all that could be asked for, and we even think five pounds of this seed on this field would have been sufficient. We want one plant at least every four inches, and on our heavy clay soils it is usually necessary to sow more than enough seed in order to get plants this close. Sowing fifteen to twenty pounds per acre will drop one bean about every one and a half or two inches. The time of seeding should be just after corn planting is over. Black beans may be seeded earlier than yellow beans. Earlier seeding than this is sometimes practiced and is sometimes successful. On the other hand, cold weather after the beans come up may permanently stunt their growth, and therefore we prefer to sow in this latitude about May



Wing's Mongol Soy Bean.

20th. The crop matures in about the same time as corn, but stands frost better than corn, while it does not seem to stand cold weather early in its growth quite as well as corn will. After the beans come up we practice level cultivation similar to what you would with corn. Deep cultivation destroys the roots just as with corn and also ridges them too much, making harvesting difficult and unsatisfactory. It is, of course, necessary to use cultivators that can be narrowed up sufficiently for these narrow rows. For years we have used Buckeye Cultivators, especially adapted to narrow rows, and like them very well for this purpose.

Many of our customers ask our opinion about sowing the crop solid instead of in rows and cultivating. Repeated tests have indicated to us that it is all right to do this, if you have reasonably clean land. The yield of grain seems to be about the same when sown solid as when cultivated. At present the indications with us are that the yield of forage is somewhat greater when sown solid, and the quality quite a little better. Weeds, however, will seriously injure this crop, and we would not at all advise sowing solid where there is any danger of weeds crowding the crop later on. A great many of our customers want to sow the beans in with their corn, harvesting the two plants together for the silo, and they figure that they get just as much corn in this way as if the beans were not there, and that what beans they get are pure gain. Probably they are right in this respect, but it has been our experience that the corn shades the beans too much, and usually in our corn fields the result has been disastrous to the beans. Frequently they grow so small that it hardly looks worth while to bother with them, and we think that where really good results with the beans are desired, they should be sown in a separate field. In this way they will produce easily ten tons of silage per acre, this comparing well with a good crop of corn. Others of our customers want to sow in the corn in order to hog both crops off at once. Our experience with these has been unsatisfactory, excepting when we used a very small-foddered corn like Minnesota 13. When used in this way satisfactory results can be obtained, and we suggest the Ito San as the proper bean to accompany this corn. We would suggest using twenty pounds of the Soy Beans to the acre, and the usual amount of corn.

Inoculation

Our experience with the Soys has been that it is very important to inoculate them. We find that if they are not inoculated they grow all right and do reasonably well, but that they are more exhausting to the soil than corn if they have no nodules, and we find in many cases that they do not carry their own inoculation, neither do they find it in the soil, and you can even grow them several years in succession on the same

soil without finding a sign of a nodule. We therefore urge our customers to pay attention to this item. We have used both soil and artificial cultures with excellent results. We do not sell the soil ourselves, but can furnish Nitragin, artificial inoculation, at a moderate price.

Harvesting for Grain

When the proper varieties are used, Soy Beans are not very difficult to harvest for grain. Some of the old varieties were almost impossible to save. The Medium Green is the worst that we ever saw in this respect, shattering very easily and being very unsatisfactory on this account. For ourselves, we prefer to let the pods get reasonably ripe. We prefer to have all of the leaves fall before we begin cutting. Then we take a McCormick Self Rake, work only when the dew is on, and have no difficulty at all in saving the crop. After cutting we let them lie in the bunches dropped by the self rake for a day or so, then if the weather is pretty warm we place them in small shocks. This helps to prevent shattering. If the weather is cool it is unnecessary to place them in shock. We are never able to thresh in less than two weeks from time of cutting, and sometimes it takes longer. After threshing, leave them in the sacks until they have thoroughly dried out, as they heat easily, and especially if desired for seed they will be damaged by this heating.

Harvesting for Hay

Soy Beans are rather difficult to cure for hay. The most approved method seems to be to cut in the afternoon when there is no dew on the plants; to rake about as soon as they are wilted in order not to lose the leaves; cure a little in wind-row and a good deal in shock. The southern racks, such as are used in curing cowpeas, are well adapted to the beans also.

Varieties

Nowhere can you make an easier mistake than when choosing varieties of Soy Beans. Some of these are adapted to forage, others are adapted to grain. Many varieties will not mature grain north of the Ohio River. Some of them are weak stemmed, grow recumbent and are therefore difficult to handle. Furthermore, some varieties will thrive in Indiana, but will not do well, say in New York state. Climatic conditions seem to affect them everywhere. There will always be found certain varieties adapted to your own state and not so well adapted to other states. It is therefore wise to pay particular attention to the varieties that you are sowing.



Ito San.

GRAIN VARIETIES



Wing's Pedigreed Sable.

Wing's Mikado This variety has given splendid results in several different states, including Indiana, Ohio and Pennsylvania. It grows to a moderate height, ordinarily about three feet, and has a strong, vigorous stem, a number of branches borne well off the ground and not subject to breaking. The beans are medium or a little over in size, yellow; mature in about one hundred and twenty days; has made over thirty bushels per acre on large acreage. Sow about twenty pounds per acre.

Wing's Mongol This variety is very similar to Wing's Mikado, but matures about a week earlier. It has been remarkably successful in Missouri, but does very well in Indiana, Ohio and Pennsylvania, and other states. Aside from its earliness there is not much to choose from between this and the Mikado. Sow about twenty pounds per acre.

Ito San An old variety that we have grown for over fifteen years, and the best real early bean that we have found. Matures probably five days earlier than Mongol; is well adapted to Michigan and other states in

that latitude; beans medium size, yellow. Its branches reasonably well, stands erect and is a reasonably good yielder. Sow about twenty pounds per acre.

Medium Green An old variety that was highly recommended for years, but which is fast losing its popularity. This is the only variety we sell which is inclined to shatter, but this bean, while it yields heavily, is very difficult to save for seed on account of this habit. It matures about with our Mongol and is similar to it in type. Sow about twenty pounds per acre.

Mammoth We class this as a grain variety, although it will seldom mature grain north of the Ohio River. It is a good enough sort for plowing under, and south of the Ohio River it is an excellent grain variety; beans medium to large, yellow.

Trial Ground's Beans Each year we test certain new varieties in our grounds and usually we have a few bushels of each to sell. These are all good varieties, nearly good enough to catalogue. We offer these at uniform price of \$2.50 per bushel.

FORAGE OR DUAL PURPOSE BEANS

Wing's Extra Select Sable This remarkable dual purpose variety has brought out enthusiasm everywhere that we have seen it. The original stock which we called Sable pleased us very well, but our present stock, which we call Extra Select, is the progeny of special hand selected plants, every one of which was a heavy yielder. In our trial grounds the Extra Select has not only shown more desirable qualities, but also a yield of probably three bushels per acre more than the original Sable. The plants stand beautifully erect, branch very freely, the branches being very long and slender, heavily loaded with pods; is not inclined to lodge even on rich ground; beans smaller than the average in size, black, height three to five feet; a splendid bean for forage. Fifteen pounds seed is plenty for an acre. It matures with the Mikado.

Wing's Pedigreed Sable This bean is a selection from the Extra Select, and is the progeny of just two plants, selected from several years of comparative tests in our trial grounds. This bean not only possesses all of the desirable qualities of the Extra Select Sable, including its splendid, long branches, which by their slenderness adapt the plant to forage uses, but in our trial grounds and fields has outyielded the Extra Select Sable from two to five bushels per acre. It matures with Mikado. Ten to fifteen pounds of seed is ample for an acre.



Forage Beans. Wing's Sable on the right, Wilson on the left. Planted in rows 8 inches apart.

Wing's Royal (new) This is another selection from Wing's Extra Select Sable. We have never seen another bean that grew quite as tall as this one, while at the same time standing erect, except on very rich ground, and having such long, slender branches. Ordinarily, this bean will grow eight inches to a foot taller than the Extra Select Sable. On quite rich ground it will lodge. We do not recommend it as a grain variety, as we think it will make only a fair yield of grain. Our tests are not complete enough yet for us to be sure on this point. On fair soil this bean grows five to six feet tall for us. We offer it this year for the first time. Beans smaller than medium, requiring about twelve to fifteen pounds per acre.

Jet This might be called a dual purpose bean, as it is moderately good in yield of grain, and is also an excellent forage bean; grows about the same height as the Sable, with somewhat similar habit of growth and similar branches, but will not stand rich ground without lodging; beans fully as large as the average Soy, black. This variety is well adapted to New York State and Michigan. It matures with the Mongol and is therefore one of our earliest varieties. Use about eighteen pounds seed per acre.

Wilson This is one of the very best forage beans, comparable to our Extra Select or Pedigreed Sable varieties. In Indiana it yields grain very well. In Ohio it ordinarily is inferior to our other grain varieties. In Pennsylvania and a number of states east, it yields grain fully as well as other grain varieties; matures with the Mikado; ordinarily grows a few inches taller than the Extra Select Sable, but does not branch quite as freely as that variety. Sow about eighteen pounds per acre.



Soy Bean, Wing's Mikado.



Wing's Royal Soy Bean.

CLOVERS

Red clover seed is often badly mixed with injurious weeds, such as buckhorn, plantain, dodder, etc. Great care should be exercised in purchasing clover seed, since life is too short to be spent in eradicating unnecessary weeds.

We handle an export grade of red clover, which we call our W. B. brand. It is of quality so superior that we are forced to ask a rather high price for it, but there are very few seedsmen handling anything as good as this is. Many of our customers have been surprised when they saw our seed, and they have stated to us that they have never seen any clover seed as good as ours.

Medium Red Clover This is the common or medium clover, the one most universally grown throughout the country. On fertile soil and especially where hay is desired, it has only one superior, and that is Alfalfa.

Mammoth Clover For impoverished soils, or for pasturage, we think this variety excels the medium. On impoverished soils it does not grow too rank or coarse, and in a pasture it retains its greenness throughout the summer much better than the medium does and also furnishes a larger amount of forage. It is also better adapted to fertilizing the soil than the medium, as it grows much ranker and coarser, making more to plow under. It is not nearly so valuable for hay when grown on fertile soil as the medium, because it is too large and coarse.

Alsike Clover This plant ranks nearly as valuable as the medium for ordinary soils, and in special conditions is much better.

Biennial, 1 to 3 Feet The plants are smaller, and ordinarily it produces a somewhat lighter crop than the medium, but, as it is also much more closely eaten by stock, there is less waste. The quality of the hay is better. As the plant is a perennial, while the medium is a biennial, it makes more of a permanent meadow or pasture plant. It succeeds on impoverished soil or acid soil better than the medium, and on wet soil it is invaluable. It will not, of course, grow in water, but will stand more moisture than the other clovers. It is fibrous-rooted and will not heave out in winter.

White Clover This is the common little running clover found in most good pastures. Its

Perennial, 4 to 9 Inches chemical analysis shows it to be richer in protein than almost any other legume which we grow for forage. It is, of course, too small to grow for hay, but it is invaluable in all pastures, and no pasture mixture would be complete without it; in fact, we can thoroughly recommend discing old blue grass pastures and sowing a mixture largely composed of this clover to improve both quantity and quality of the pasture.

Crimson Clover Throughout many sections of the country this plant has accomplished

Annual, 1 to 3 Feet wonders, principally in building up poor soils. Its usefulness is mostly confined to its fertilizing value, as the hay is not very well relished by stock, although if cut green it makes a fair quality of hay. In the Atlantic and Southern States its usefulness can hardly be overestimated, as it has redeemed thousands of impoverished fields at an extremely moderate expense. It is usually sown in the fall, allowed to come into bloom, which it does quite early in summer, then either cut for hay or plowed under, and another crop grown the same year. It could be sown in the spring, when it would mature a crop before fall.

MELILOTUS, or SWEET CLOVER

It is rather pleasant to be progressive and have one's visions come true. When other seedsmen were barely mentioning this plant, we were giving up a page or two to it in our catalogue. As a matter of fact we congratulate ourselves that no farm crop of any importance has appeared ahead of our own development, and usually we have been a little bit ahead of the times. For a few years after we began pushing this seed, many farmers were skeptical concerning it and many of them even considered it a dangerous weed. Not only has this feeling very materially subsided today, but we believe the average farmer knows Melilotus to be a valuable plant and is thinking about sowing some. Furthermore, in the beginning many of us considered it useful only as a fertilizing plant, while today it is coming to be recognized not only as one of the most extraordinary fertilizing plants in America, but as the most wonderful pasture plant we have, and not to be despised even for hay. During the past summer I had one twenty-acre pasture of this plant on which, during the months of May, June and July, I ran twenty head of two-year-old cattle and eight head of horses without hardly touching the feed. I honestly think that fifty head, during that time, would not have consumed the feed, and some of my enthusiastic neighbors said it would have pastured seventy-five head. I took the cattle off along in July and got one hay crop and then a seed crop. I do not think there is any other plant we have that will come even close to making this much feed in the Corn Belt, or whose feed will be as nutritious. I do not even except Alfalfa in this point, and as to nutrition it is simply wonderful to see the gains that

cattle or any other live stock put on when pastured on this clover. My brother during June pastured two-year-old beef steers on this plant, giving them a very moderate grain ration and put on ninety pounds per head. As a hay plant I very much prefer Alfalfa and yet Melilotus Hay, when properly handled, is by no means to be despised and I would, I believe, considerably prefer it to medium red clover, although it is a good deal more difficult to cure. On the other hand, like Alfalfa, it will stand a good deal of rain without spoiling, and medium red clover will not. As a fertilizing plant I really think we have nothing that will quite equal this one, especially in the white-blooming variety or Melilotus Alba. I think that an acre of it, under favorable conditions, will produce ninety to one hundred pounds of nitrogen, sufficient to grow a ninety-bushel corn crop without drawing on any of the soil's nitrogen whatever.

Seeding Melilotus We have seeded this plant almost every month in the year and have never failed with it. However, we prefer sowing either on top the ground during the winter, letting the frost cover the seed, or very early in the spring, sowing with one of the Alfalfa drills. In our experience it has been necessary to have plenty of moisture to germinate this seed, and that is why we prefer winter or early spring seeding. We have, however, seeded almost every month throughout the summer and consider it entirely practical to do this. Melilotus prefers a hard seed bed and a very scant covering of earth over it; just barely covered is the best. If covered an inch deep, much of it will not come up. It is like Alfalfa in absolutely requiring plenty of lime in the soil. It needs inoculation as badly as Alfalfa and this matter should not be neglected. Within the past year we have purchased a new machine call a "Scarifier," which simply sand-papers the seed, breaking up an impervious outside coat. Formerly we experienced some difficulty with hard seed in Melilotus which would lie in the ground probably a year before germinating. By the use of this new machine Experiment Station tests indicate that a perfect germination can be secured and in three days' time, instead of from five days to possibly a year with the hard seed. It is our opinion that this



Melilotus Alba, 8 feet tall on land considered quite poor.

scarified seed should not be used in the winter months, but that when seeding with it you should wait until the first of April. It is our opinion also that ten pounds per acre of scarified seed, properly sown, would make a satisfactory stand. We handle at all times both the scarified and the unscarified seed, but we make a charge of 25c per bushel for scarifying. For the past few years we have absolutely declined to handle unhulled Melilotus seed, as the results from this seed were too uncertain and unsatisfactory.

Varieties

There are three common varieties of the Melilotus: Melilotus Alba, a white-flowered perennial, growing four to eight feet in height; Melilotus Officinalis, a yellow-flowered perennial, growing three to five feet; Melilotus Indica, a yellow-flowered annual, growing about one foot high. Melilotus Alba is, in our opinion, the best variety, although some people prefer Officinalis for hay. We think that the Officinalis probably is a little better for hay, but it makes somewhat less of it, is not so sturdy and vigorous, would not, in our opinion, make so much pasture nor nearly so much fertilizer. On that account we prefer to handle the Melilotus Alba and seldom have Melilotus Officinalis to offer. Melilotus Indica costs almost nothing, and in the states south of the Tennessee line it makes a valuable cover crop. Some of our customers in the Corn Belt use it for inoculating purposes, but we do not recommend its being grown north of the Ohio River for either feed or fertilizer, unless you are unable to use the slower growing perennial varieties.

Harvesting for Hay

The first year we believe we prefer pasturing the Melilotus rather than getting a hay crop, although we have cut the hay very late in the fall, say the last of September, and secured a moderate crop without apparently injuring the plants. The second year we cut, usually, one hay crop, doing this preferably when the plants are in full bud, but not blooming. We cut this crop a foot high, using a McCormick Self Rake for the purpose. Drop your bundles just as small as possible and let them dry somewhat, say for a day or so before putting into shock, or you can sometimes get your blacksmith to put a wheel on your mowing machine so that you can run the cutter-bar a foot high. We would really prefer this to the self rake, since it would let every plant wilt and dry a little before it had to go into shock. It usually requires, with us, a week or ten days' time in shock before the hay is ready to go into the barn. During this time we will open the shocks out two or three times during the day and let them have sun and air. Care must be used



Testing Sorghum, Sudan Grass and the Millets in our Trial Grounds.

not to let the leaves become too brittle, as they will fall off the same as Alfalfa leaves.

Harvesting for Seed

It is not difficult to save the seed crop if you know how. Get a McCormick Self Rake. When three-fourths of the little pods have turned brown, start mowing at the first peep of daylight in the morning, and stop the minute that the dew is off, probably at half past seven or eight o'clock. If you happen to have a little rainy time, it is advisable to make the most of it in cutting. Make your bunches just medium sized, then keep all the stock out of this field until ready to hull, which will probably be three to six weeks' time. It needs one or two good rains to rot the pods a little. Before hulling you may want to turn the bunches over once. Use an ordinary clover huller, haul on tight-bottomed sleds or wagons, and frequently stop and shovel the shattered seed off the sled or wagon into the machine. Handle just as little as possible, and do not get on to your loads to tramp them or load them. After the seed is threshed, if any chaff or dirt is in, it must be immediately run through a fanning mill. Watch it constantly for a week to see that it does not heat. Do not empty it into a bin short of two weeks' time.

Used as a Fertilizer Plant

Some of our customers have worn soil which they wish to renew with the minimum of labor. Those who have tried Melilotus Alba, seeded once and simply allowed to stand for three or four years, have been delighted with the process. The plants reseed themselves splendidly. Their decaying roots and tops rapidly restore the soil's fertility, and such land after being seeded down for three or four years will surprise the owner when plowed up and put into other crops.

GRASSES

THIS SUBJECT has, in our opinion, been neglected by the average American farmer. He has been deceived by some widely exploited new grasses which disappointed him, and sometimes he has tried new grasses of merit, but owing to conditions being unfavorable, drouth, improper seed bed, etc., total or partial failure has discouraged him. For a good many years we have been trying out various grasses which are not widely known. We find some of them to be extremely valuable and are now using them continually on our own farms. Our customers are also finding that the grasses which we like suit them, and are becoming as enthusiastic as we are. We would urge farmers generally to test some of these lesser used grasses, and believe that they will agree with us that they are far more meritorious than they ever supposed.



Wing's Dry Pasture Mixture, May 1st. A first-class bite.

Bromus Inermis or Awnless Brome Grass

Perennial; height three to five feet. We consider

this one of the most important grasses that has ever been introduced into the United States. It was brought in by the Department of Agriculture fifteen years ago. We tested it at that time and immediately adopted it as a permanent feature of our farms, where it has remained ever since. For a few years we sold the seed, but in a short time all commercial samples became contaminated with quack grass and we then refused to handle it. Now, however, we have pedigreed seed grown each year from our own stock and running absolutely free from this pest. We therefore feel warranted in advising our customers to use it. This year the crop is almost a total failure and price necessarily high. This grass seems to us much more valuable than timothy, especially as a pasture plant, as it stays green and nutritious when timothy has dried up and seems nearly dead. It makes as much hay as timothy, frequently somewhat more, and just about the same quality as timothy. It runs underground and constantly thickens up; thus a thin stand in the beginning is rather advisable. All kinds of stock love it and thrive on it. When plowed up it is not difficult to kill out; no more difficult, we find, than timothy. It is the best grass we have ever used on wet or muck soil, the yield there sometimes being enormous. It stands drouth well; thrives on either rich or poor soil. The seed must be sown by hand on a well-prepared seed bed and must be lightly covered. We prefer sowing early in the spring, using ten or fifteen pounds seed per acre.

Blue Grass, Canada Perennial; height ten to twelve inches. A less valuable grass than Kentucky Blue, but succeeds on soil too poor to support the former variety. It is well relished by live stock, but produces considerable less feed per acre than the Kentucky Blue Grass does. Sow, if alone, about 40 pounds per acre.

Blue Grass, Kentucky Perennial; height ten to fifteen inches. This plant needs little description. It is the common "June" Grass or



Wing's Dry Pasture Mixture, June 4th. Some grass!

Blue Grass found so universally over fertile soils in the Corn Belt, and is the natural pasture grass throughout these states. Sow, if alone, about forty pounds seed per acre.

Fescue, Meadow Perennial; height eighteen to twenty-four inches. A valuable grass, especially in pasture mixtures. It does well on low, rather wet soils and also on dry upland. It is well relished by live stock and will stand a reasonable amount of punishment. Sow about forty-five pounds per acre.

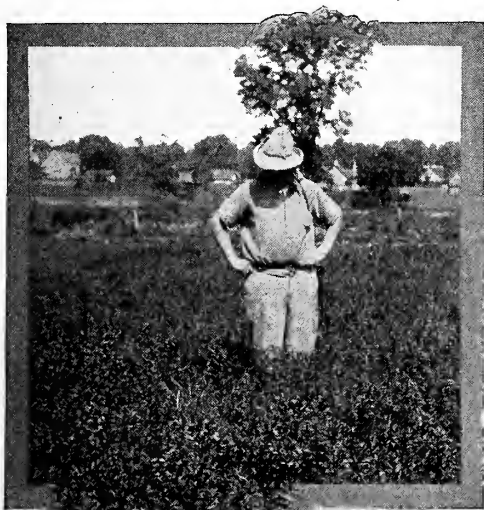
Fescue, Tall Meadow Perennial; height three to four feet. Very similar to Meadow Fescue, but grows somewhat taller, a little coarser, and stands adverse conditions a little better. Sow about thirty-five pounds per acre.

Fescue, Sheep's Perennial; height six to twenty inches. A grass peculiarly adapted to pasture mixtures and to lawn mixtures, owing to its making a dense mass of foliage close to the ground and to its being well relished by live stock. Sow about thirty pounds per acre.

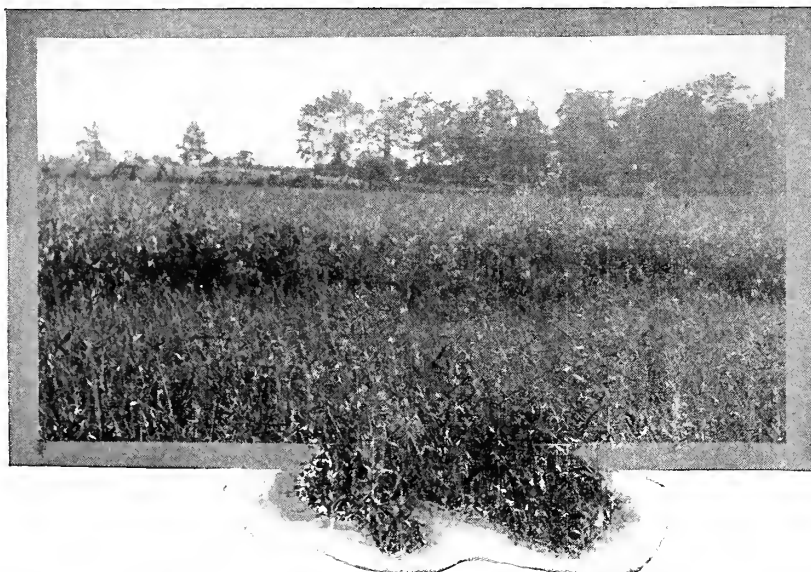
Fescue, Hard Perennial; height six to twenty inches. A grass used mostly in lawns for shady places. Closely resembles Sheep's Fescue. Sow about fifty to seventy pounds per acre.

Orchard Grass Perennial; height two to three feet. This is a very necessary grass, although we do not consider it one of the most useful. It is necessary because it stands all kinds of punishment better than most of our other grasses do. It catches well on a poor seed bed, grows on the poorest soil, stands all sorts of tramping and drouth conditions, and yields an excellent amount of forage. On the other hand we have other grasses that are better relished by live stock; especially is this true when the Orchard Grass is allowed to become rank without being mown or pastured off. Frequently, when it becomes rank and woody, it will pay very well indeed to mow it, after which it immediately starts up fresh and succulent. It thrives better in shady places than any other grass we know of. Sow, if alone, twenty or twenty-five pounds per acre.

Oat Grass, Tall Meadow Perennial; height three to five feet. We have used this grass for many years; have liked it very well and our customers are becoming very enthusiastic over it. Next to Bromus Inermis is about the way we would place it in value, and if it had the ability of running underground as the Bromus has, we would consider it fully as valuable as that plant. It does well on muck ground, thrives on poor or acid ground, stands tramping and heavy pasturing a good



Same Dry Pasture Mixture, July 5th, just thirty days after cutting.



An old Blue Grass sod with one of our Dry Pasture Mixtures disked in. Contrast the new with the old, untreated part in the foreground.

PASTURE MIXTURES

FOR TEN YEARS we have worked in trial grounds and on our farms determining the best grasses to be used in mixtures. We have tried not to find simply a combination of cheap odds and ends that could be thrown together and which would naturally excite the derision of our customers, but we have made an effort to build up mixtures that would be the very best thing for the Corn Belt that could be devised. Each year we have learned more about them. Our first mixtures, well prepared theoretically, have been radically changed as the result of years of experience, and we now have mixtures which excite not only our own admiration, but that of every one who sees them. Without meaning to do Kentucky Blue Grass, the great pasture plant of the Corn Belt, the slightest injustice, we all know that, measured in tons per acre, its production is

deal better than *Bromus Inermis* does. It stays more succulent and palatable throughout the entire season than Orchard Grass and is, in our opinion, a much more valuable grass. It must have, however, a good seed bed and be lightly covered when seeding. It makes as much hay as timothy and of about the same quality. Sow about forty pounds per acre.

Rye Grass, English Perennial; height twelve to twenty-four inches. A very necessary grass for use in mixtures, succeeding under very adverse soil conditions such as on poor, newly filled lawns, or dry, hard pastures where other grasses have a hard struggle for existence; comes on early in the spring, making a luxuriant growth of attractive and nutritious herbage. It does not remain permanently, and other grasses are always expected to gradually take its place in any mixture. Sow fifty to seventy pounds per acre.

Red Top Perennial; height one to two feet. This grass needs little description. It is excellently adapted to wet grounds and thrives fairly well on hard, poor soil. Sow about ten pounds per acre.

Timothy Perennial; height four to five feet. Too well known to need description. We handle what we believe to be the very best seed on market and seed that invariably gives satisfaction. Sow twelve pounds per acre.

Bent Grass, Perennial; height six to fifteen inches. A valuable grass for lawns, succeeding well in shady places. Forms a rather slow growing, very fine leaved turf. Sow fifty to seventy pounds per acre.

Bent Grass, Creeping Perennial; height six to fifteen inches. A variety used for lawns and similar to Rhode Island. Sow fifty to seventy pounds per acre.

Wood Meadow Grass A variety used for lawns, especially for shady places. On account of the cost of the seed, other grasses somewhat superseded this variety. Aside from its expense it is very valuable.

invariably moderate; we know that if severely pastured it will be nearly killed out, and that in July or August, under heat and drouth, it withers and nearly dies. Our mixtures will, we believe, produce several times as many tons of feed per acre as Kentucky Blue Grass. They will be equally palatable, and every year, whether with rain or drouth, they will stay green all summer. Furthermore, we believe we are scientifically combining deep-rooted grasses with shallow-rooted ones, thus using all the soil; that we are combining tall-growing ones with those that form a close compact sward, thus forming ideal pasture conditions. Finally, we combine the clovers in liberal quantity with the non-leguminous grasses, and thereby retain the soil's fertility, make a more-balanced ration and a much more nutritious diet than would be secured by the use of any one grass. The photographs which we show will bear us out in this theory, and the fact that we sell many thousand dollars' worth of these mixtures annually with scarcely ever a complaint, further bears us out. Our pasture mixtures all contain liberal amounts of clover, therefore they must be seeded not too late in the fall, although excellent results may be obtained by sowing in August or first of September. We prefer, however, that they be seeded either in April or in August. As they contain liberal amounts of light



Oat variety plots in our Trial Grounds. A great many strains are tested and improved in this manner every year.

weight and large seeded grasses, such as Bromus Inermis and Tall Oat Grass, they must be sown by hand. They do well if sown with a light nurse crop of Barley in April. They will, under favorable conditions, make a moderate amount of pasture late the first fall, but will increase in usefulness until two or three years old. The first season they must be lightly pastured only.

Dry Pasture Mixture This mixture is expected to be used either on rich or poor soil, and on any soil that has been reasonably well drained. It is not adapted to wet ground, but our designation of Dry Pasture simply means, adapted to drained soil. We recommend twenty pounds of this mixture per acre. It contains the following varieties of seed: Timothy, Mammoth Clover, White Clover, Melilotus, Orchard Grass, Tall Meadow Oats, Tall Fescue, Sheep's Fescue, Canada Blue Grass, Kentucky Blue Grass, English Rye Grass, Alfalfa and Bromus Inermis.

Moist Pasture Mixture This mixture is designed for wet grounds, or ground which overflows. We advise using twenty pounds seed per acre, sown in the same manner and at the same time as the Dry Pasture Mixture. This mixture contains Timothy, White Clover, Alsike, Medium Red Clover, Mammoth Clover, Melilotus, Kentucky Blue Grass, English Rye Grass, Meadow Fescue, Sheep's Fescue, Tall Fescue, Red Top, Orchard Grass, Tall Meadow Oat Grass and Bromus Inermis. The amounts of the various grasses are altered to give a preponderance of those which will stand wet conditions.

Stump Mixture Some of our customers want a mixture of grasses to sow on recently cleared land which cannot be plowed, and in many cases cannot even be harrowed. No mixture of grasses can be expected to do its best under these conditions, but from long experience we have been able to select certain ones

which will succeed reasonably well, and we have combined these into our Stump Mixture. This mixture is composed of Orchard Grass, Medium Clover, Alsike, Melilotus, White Clover and English Rye Grass. Twenty-five pounds should be used per acre. If it were possible to harrow the ground, it would be much better to do so, but if it is impossible, you can count on fairly good results anyhow. We would sow this mixture about the first of April, using twenty-five pounds per acre.

Dry Permanent Meadow Mixture This mixture is intended to be mown for about two years and then to revert to pasture. It contains permanent pasture grasses which will greatly thicken up during the first two years and can be counted on to give excellent results where this sort of a mixture is desired. The dry mixture is intended for use on all meadows that are well drained. We recommend about twenty-five pounds of this mixture per acre.

Moist Permanent Meadow Mixture Differs from the dry in being adapted to rather wetter soil. We advise twenty-five pounds seed per acre.



A 16-acre field of our Siberian Oats which yielded 810 bushels in 1915.

VETCHES

Vicia Villosa, Winter Vetch, Hairy or Sand Vetch

We have worked with this plant now for over ten years and find it to be very useful. It fills a place which no other plant we know of does, that of winter cover crop which can be plowed under about May 10th in time for a corn crop. It thrives best, we find, on sandy soil, but we ordinarily do not have much trouble getting it to succeed on any soil we have, including our heaviest clays. The worst fault we have found with it so far has been that it did not produce seed satisfactorily. Ordinarily the seed comes from Russia, where it is produced in great abundance, the plants growing wild on great areas. There seems to be no good reason why it should not produce seed in America, but it has not made what we call satisfactory yields, the average being three or four bushels per acre. As a cover crop and for plowing under the following spring, no other plant grown in the Corn Belt



WINTER VETCH.
Plants in Full Bloom. (Courtesy of the Practical Farmer.)

equals this one. By about May 10th the plants will be a tangled mass, the stalks three feet or over in length; and plowed under at that time we estimate that the plants will add to the soil fully ninety pounds of nitrogen per acre, enough to grow nearly ninety bushels of corn without drawing from the soil nitrogen at all. This plant is now being extensively used in orchards where Soy Beans are sown in the spring, cultivated all summer and followed with the Vetch, which is plowed under the following spring and again followed with Soy Beans. Winter Vetch is also an excellent pasture plant, giving late fall pasturage as well as early spring, and animals like it and thrive on it. It analyzes practically the same as Alfalfa and would doubtless make good hay, but in the United States has not been used much for this purpose.

Seeding Our best results have come from sowing this plant in August, giving it plenty of time to become established before winter. Some of our customers have reported good success sowing clear up into October. The plants are extremely hardy and retain many of their green leaves all winter. We have usually found thirty-five pounds of seed to be required and sometimes use forty pounds. We prefer sowing on a well-prepared seed bed, or sowing in the corn at last cultivation. We have tested sowing in corn without covering the seed at all, and in our trial grounds this succeeds nicely, so we think that if for any reason it is impossible for you to cover the seed, you can sow in the corn anyway and expect good results. We also sometimes sow this seed at the same time that we sow Soy Beans, using about twenty pounds Soy Beans and twenty pounds Winter Vetch mixed together. This method works well, making a good fertilizer to plow under after the Soys are removed and doing so at the minimum of cost. The Vetch grows slowly for the first few weeks and does not seem to mind the beans, which quickly grow away from it. Late in the fall when cool weather comes, the Vetch thrives much better and will frequently cover the ground by the time the Soys are ready to harvest.

Inoculation Winter Vetch frequently fails miserably if it is not inoculated. We did not succeed ourselves until we accidentally secured the inoculation, and we always recommend care in this matter in order to prevent failure. For the most part, at present, it is necessary to use the artificial cultures for this purpose, as few men have inoculated soil for sale. We can furnish the artificial

cultures ourselves just as we do for any other legume.

Harvesting for Seed As far as we have been able to learn, there is only one really successful method in use today for harvesting this crop for seed. In the first place bear in mind that the Vetch is naturally recumbent and that a companion crop of grain must be grown with it in order to hold it off the ground. Rye, Speltz, Sweet Clover and Timothy have all been used for supporting the plants, and we have enthusiastic customers who believe in each one of these. An old Timothy sod, thoroughly disked and seeded to Winter Vetch, is said to make splendid conditions. Rye is probably used more than anything and works reasonably well. Sweet Clover should preferably be seeded in the spring, and the Vetch in the fall in order to have these two crops come together, and for ourselves we do not think we would like this combination, simply because the Sweet Clover seed itself is valuable and would not be ready to harvest at just the same time as the Vetch. When you come to cut the crop, it will probably be necessary to use a mowing machine and to have men follow the machine laying each swath (which will be pretty well tangled and tied together with the Vetch) over to one side where horses and machine will not run over it with the next swath. This may seem primitive, but apparently is the best way to do at present. Some loss may be expected from shattering, although our customers say that it is not necessary to have much. The seed is cured in shocks for a few weeks and then threshed out with an ordinary grain thresher. Care must be taken that it and its accompanying grain do not heat after being threshed, as this, of course, ruins the germination.

Vicia Sativa, Spring Vetch, In Oregon this plant thrives wonderfully, but in Ohio it does not do as well as Winter Vetch, at least **Common, Smooth or Oregon Vetch** our own experience has not been so satisfactory. On the other hand, the seed is very inexpensive and we do think it worth trying. The plants make excellent feed, are used for soiling purposes, very frequently being sown with Oats, Canada Peas and Dwarf Essex Rape, a combination which gives excellent results. About sixty pounds of Spring Vetch should be used per acre, and with it should preferably go a bushel of Oats and probably forty-five pounds of Canada Peas. Seeding should be done early in the spring.

FERTILIZERS

WE HAVE already written most of what we think about fertilizers in the chapter on Alfalfa, page 10. However, some of our customers want fertilizers for other crops as well as Alfalfa, and it is for them that this chapter is written. Our long-time studies in this work have given us some rather positive opinions which we will state frankly. In the first place nitrogen or ammonia, which is our most expensive fertilizer, comes to us naturally from the air through the form of our various legumes, provided that we grow these legumes and also that we have them inoculated. Decomposing rock or mineral elements in soil contain no nitrogen. The only way you can get it is either by purchase, which is extremely expensive, or by the use of legumes. Potash is greatly needed on muck soils, but is not badly required on any other soil.

Furthermore, good farming combined with the use of plenty of manure, deep plowing and thorough tillage constantly breaks up insoluble potash in the soil, thus economically affording us this necessary material. Phosphorus we must buy, and it is the most important fertilizer in use today. Fortunately, it is also inexpensive. All of our crops, whether grain, legumes or non-leguminous grasses, thoroughly welcome applications of phosphorus, and all of these plants love Bone Meal or Basic Slag, just as we have already written that Alfalfa does. You simply cannot go wrong in applying these two great fertilizers. We issue a special fertilizer price list which is available to all upon application. We ship any kind of fertilizer, either from our warehouse, from Cleveland or Chicago.

WING'S SELECTED GRAINS

BARLEY

Champion Beardless Modesty is one of our chief virtues, but some way it seems as if we have always been either first or mighty close to it on the good things in agriculture. Over fifteen years ago we read somewhere about Beardless Barley. We had been growing Oats for a nurse crop for alfalfa and had found them unsatisfactory. We secured some of

the Barley, and the very first crop delighted us so that we have used it continually ever since. Beardless Barley has stiffer straw than any oat; it stools less vigorously, has fewer leaves, and therefore does not crowd the young meadow so much, and finally, it comes off the ground for grain about July 12th, nearly a month before common varieties of oats. We have found really no comparison between oats and Beardless Barley as a nurse crop. As a grain, Beardless Barley has a feeding value about the same

as corn. Hogs like it very well if it is soaked, or if ground and fed in connection with tankage or mill feed. It is not safe to feed horses except in very small amounts. It makes good cow feed; is not very good for poultry. As a nurse crop sow three to five pecks per acre; for grain sow two bushels.

Seed Unfortunately, from the very beginning Beardless Barley has been mixed somewhat with bearded varieties. For many years we paid no particular attention to this, as the mixture did not seem to amount to much. Of recent years, for some reason, the beards have increased quite rapidly, and today outside of a small stock which we are reserving for stock seed, all commercial Breadless Barley is badly mixed with beards. Our own seed will probably run 20 or 25 per cent. beards at this time. We have, however, been working on some seed which by hand selection we have now made practically pure. It will run about one per cent. of beards, and contains in addition a trace of oats. Owing to unfavorable crop conditions we will have only a few hundred bushels of this pure Barley to offer, but next year all of our growing stocks will be put out in this pure Barley, and thus in 1917 our stock of Barley will all come pure. This pure Barley is listed separately in our price list as Champion Beardless Pure, the common or mixed stock is listed as Champion Beardless Common.

In about 1917 we will be able to offer a pedigreed strain of Beardless Barley, which we think will be the finest that has ever been introduced in market. It is a plant selection of our own breeding, and at present is wonderfully promising.

Comparison Between Bearded and Beardless Barley Bearded Barley yields more heavily of grain than the Beardless does. It has a trifle weaker straw, but is still, in our opinion, preferable to oats as a nurse crop. If we were to guess on the difference in the yield of grain, we would say that the Bearded would outyield the Beardless as much as ten bushels per acre.

Wisconsin Pedigreed Barley This variety is, as far as we can find, the heaviest yielding Bearded Barley grown anywhere in the Corn Belt. Our stocks come from the most reliable sources, and we believe are sure to give satisfaction. Sow for grain two bushels per acre.

Winter Rye Too well known to need description. We handle the Common or Black Rye, which suits many of our customers, and in 1916 will have Wisconsin Pedigreed Rye also. This has been making very heavy yields, much better than Common Rye. In 1917 we expect to offer a variety of our own upon which we have been working for some years, and one which promises very favorably at this time. We use, ordinarily, about one bushel seed per acre.

Buckwheat, Japanese This grain needs no description. We handle the best stocks that we can find, and our seed gives universal satisfaction. Sow one bushel per acre.

SEED OATS

WE HAVE WORKED over Seed Oats for many years, not only in our trial grounds, but in co-operation with the Experiment Stations. We have tested out everything that looked promising in the line of Seed Oats, and are still doing this, hoping to benefit our stocks by this method, but at this time the varieties which have been giving the best results at the Ohio Experiment Station are still the best in our trial grounds. These varieties are the Improved American, Siberian and Sixty-Day, and in a ten-year average test of twenty-one varieties these three stand at the top at Wooster.

Improved American Oats This variety is in some ways, we believe, the most important Oat that is grown in Ohio today. It has splendidly good strong straw, stands up well on the richest ground and yields very satisfactorily indeed. It is adaptable and thrives on nearly any kind of soil found in this state. Sow two bushels per acre.

Siberian At Wooster this variety has slightly outyielded the Improved American. It is, however, not quite as well adapted to very rich ground, the straw being a little weaker. It has given good satisfaction all over the state. Sow two bushels per acre.

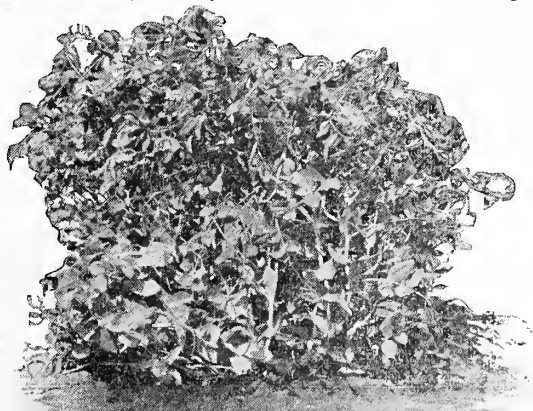
Sixty Day This very valuable variety matures the earliest of any Oat grown in this state and for an early Oat it yields remarkably well. It is the best variety of any for a nurse crop, and ripening as early as it does, its grain frequently goes on to the market a week before other grain, thus bringing the maximum price. In yield of grain it is usually just a trifle below the Improved American. Sow two bushels per acre.

SEED WHEAT

Seventeen-year test at the Ohio Experiment Station would seem to have demonstrated that two varieties of Seed Wheat, the Poole and Gypsy, are best adapted to Ohio soils, as these two varieties have continually outyielded all others during this seventeen-year period.

Gypsy Wheat This is a bearded variety with lots of straw, but with such stiff straw that you need not worry even on rich bottom land about its lodging. It is extremely hardy, stands the winter almost like Rye and a very heavy yielder. We grow our own seed, and our stocks will be found to be remarkably pure. Sow one and a half to two bushels per acre.

Poole Wheat Poole Wheat heads the list of smooth varieties. With us it has shorter straw than the Gypsy and less of it. Its straw is about as stiff as the Gypsy, and we have no trouble with its lodging. It stands the winters well and in every way is proving a very satisfactory variety for us. Sow two bushels per acre.



Good seeds always pay. The Canada Field Pea plant at the right is produced from our white seed, such as we always sell, while the smaller plant at the left grew from hybrid seed, which is much cheaper than ours and obviously much inferior.

MISCELLANEOUS FORAGE PLANTS

CANADA FIELD PEAS

MOST OF OUR READERS already know this plant fairly well, but it should be of greater importance than it is, as we consider it one of the best forage plants for very early spring use. Its seed should be sown in March for best results, as it dearly loves cold weather. Some of our best results are obtained by scattering the seed on top of the ground and plowing under to a depth of about four inches. In connection with this plant Oats are usually grown and sometimes Spring Vetch and Dwarf Essex Rape. When properly handled Canada Peas should grow four or five feet tall, produce an abundance of forage, and later on some peas. We find it important to use good seed, as the accompanying illustration will show. The larger plant is grown from our best stock, the kind that we always sell; the other plant is grown from cheaper seed, composed largely of hybrids. This seed has a rather muddy appearance, and the result of this test is apparent to any one from our protographs. We advise using one bushel Canada Field Peas, one bushel Oats per acre, and if Rape and Spring Vetch are added, we would use five pounds Rape and fifty or sixty pounds of Spring Vetch. The crop should be ready to pasture about May 15th, or to reach about its full growth by the middle of June to the first of July. At this time it makes an excellent soiling crop. It is sometimes cut for hay, but is rather difficult to cure.

COW PEAS

THESE PLANTS ARE practically always used either for fertilizer or for hay. As a fertilizing crop they are inferior to Soy Beans; that is, their analysis is lower, carrying a smaller per cent. of nitrogen, but rather seems as if they do a little better in thick standing corn than Soy Beans do and therefore, in this respect they are better. As a hay plant, especially for the South, they are to be recommended. It is rather difficult to cure them, but they make excellent nourishing feed. They are more recumbent in their nature than Soy Beans, and therefore more difficult to harvest. We are ordinarily able to furnish three varieties.

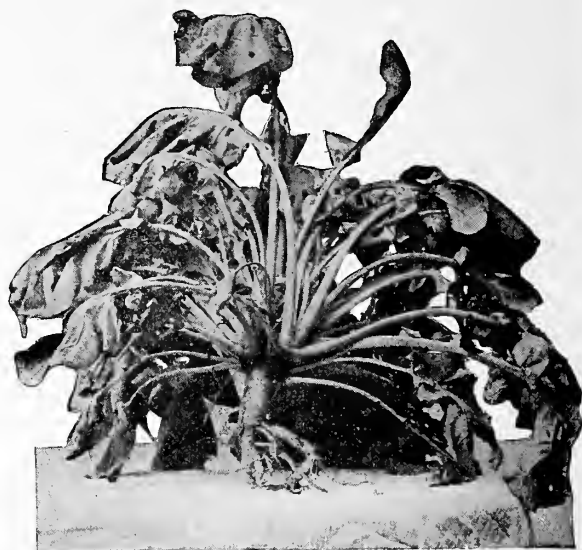
Michigan Favorite This Pea has given the very best of results in Northern Ohio and similar latitudes, being early, hardy and quick-maturing. Sow one and a half to two bushels per acre; time of planting, immediately after corn planting.

Whippoorwill This is a standard variety all over the Corn Belt as well as southern states. It is nearly as quick-maturing as the Michigan Favorite and produces forage very well indeed. Sow one and a half to two bushels per acre; time, immediately after corn planting.

New Era This variety matures at about the same time as the Whippoorwill and makes for us about the same amount of forage. Its seed is usually a trifle smaller than the Whippoorwill, and therefore requires a little less of it per acre. Sow about one and a half bushels per acre; time, immediately after corn planting.

DWARF ESSEX RAPE

This plant belongs to the cabbage family, tastes like and resembles cabbage, except that it forms no head. Its seed is very inexpensive, costing ordinarily only about 35c per acre. It grows well in standing corn, succeeds on almost any soil, and is so well relished, especially by hogs and sheep, that we rather wonder why more of it is not used. It is an extremely quick-maturing crop. Sown the first of April, it is ready to pasture before the first of June, and succeeding crops may follow as you wish clear up until frost. After being frozen hard it is unsafe to feed. The Dwarf Essex variety is biennial; it, however, makes all



Dwarf Essex Rape.

of its useful growth for feed the first year and never blossoms the first year. There is another variety that is annual, blossoms and forms seed the first year and readily becomes a weed. We advise you to specify the Dwarf Essex when ordering. This plant should be sown on a well prepared seed bed, using three to five pounds seed per acre, the seed being lightly covered.

Sorghum This plant has been grown for years, both for its syrup and for its forage. We handle the Early Amber variety, which is well adapted to both purposes. When grown for syrup it should be sown solid, using seventy-five to one hundred pounds seed per acre. Handled in this way the stalks are small and slender, very leafy, and the yield per acre is very large. The feeding value is about the same as that of corn stover. It may be placed in shocks after harvest, where it will keep for several weeks. The stock relish it, probably, a little better than they do corn stover. It should not be harvested until reasonably ripe. It should be sown immediately after corn-planting time. It is dangerous to pasture Sorghum, but it is perfectly safe to feed when cut.

MILLETS

Japanese Millet This is the tallest growing and coarsest variety of Millet that we handle. Our illustration shows the comparative sizes of the different varieties, and also a comparison with Sorghum and Sudan Grass. A great many of our customers prefer the Japanese to any other form of Millet. It is economical, requiring only ten or twelve pounds seed per acre, and it is a good yielder.

German or Golden Millet Tennessee grown. This variety is next to the Japanese in coarseness; by our tests makes as heavy a yield as the Japanese does. The best seed necessarily comes from Tennessee, and such seed always commands a somewhat higher price than seed grown elsewhere. Sow about fifty pounds seed per acre any time between May 1st and June 15th.

Hungarian Millet This is the smallest and earliest maturing variety that we handle. It makes hay of the finest quality of any Millet, but with us produces less of it than the other varieties. It may be sown clear up to the middle of August. Use about 48 pounds seed per acre.

SUDAN GRASS

This plant has simply sprung into prominence, especially in the Southwest, as a forage plant. In the Southwest it makes two or three cuttings of hay per season. Its production is very heavy and stock are said to like the hay very well. Our illustration shows the comparative size of it when grown alongside of the Millets and of Sorghum. Its stalk is about as coarse as Japanese Millet. It is an economical plant to grow, requiring only about three pounds of seed per acre, and would rather seem to be destined to supplant the Millets. It is a near relative of the Sorghums, and the seed has to be grown with great care, because it is easily contaminated by the Sorghum. Our stock is grown for us on contract in territory widely separated from any Sorghum. It is also very frequently contaminated by Johnson Grass, which it closely resembles. Our seed is grown in territory free from Johnson Grass. It is sown in drills three and a half feet wide like corn, being planted just after corn planting. It tillers remarkably, and one plant will cover a circle fifteen or perhaps eighteen inches in diameter, and produces very many stalks.

LAWN MIXTURES

Preparing the Lawn Sometimes in America we do things so hurriedly that we ask the impossible of our plants. Soil excavated from the cellar of a newly constructed house is about as barren by nature as the desert, yet we sometimes sow delicate Lawn Grass seeds on this harsh undecomposed and unaerated soil, expecting the result to be a beautiful lawn. Sometimes the Lawn Grass achieves the impossible, but it is safer and better not to ask so much of it. When you make your fill and level off the lawn, if you will leave four inches of surface soil on the top, you will be very much more likely

to succeed than if this precaution is not taken. If you cannot leave four inches, then leave two inches. If you cannot do this, then haul one inch of good, rich dirt and place over the top of your filled ground. Make the surface about as rich as convenient. Well-rotted manure is good if it does not contain weed seeds; bone meal is splendid; wood ashes are good; thoroughly air-slaked lime or ground limestone rock are excellent. Apply all of these materials liberally; the ground limestone at the rate of one pound for forty square feet. Work the ground until you have a perfect seed bed. Sow fifty to seventy pounds of Lawn Grass Mixture per acre; one and a half or two pounds per thousand square feet. Sow the seed evenly, going both ways and rake it in. Mow as frequently as necessary, using a sharp mower that will not pull the plants up. Best results, we think, will be obtained by sowing either early in April or about August first.

Wing's Lawn Grass Mixture For years we have worked with various Lawn Grasses and the mixture which we now prepare gives us, as well as our customers, excellent satisfaction. It is composed of the best of the fine-leaved, turf-forming grasses, the sorts that have given us the best results, as well as those recommended by the United States Government. Our regular mixture contains a small amount of white clover, but we can furnish this grass without the clover, if desired. We handle only one grade, the best. Sow fifty to seventy-five pounds per acre.

Shady Place Mixture This mixture is adapted to any sort of shady place where an ordinary mixture will not thrive. The grasses composing it are rather high-priced, and consequently our prices must be a little higher than for our ordinary mixture. Sow the same amount and in the same manner that you would our regular mixture.

INDEX OF FIELD SEEDS

SEED	Page	Sow (if alone), per Acre	Weight per Bush. Lbs.
Alfalfa (Medicago Sativa).....	2	20 lbs.....	60
Alsike or Hybrid Clover (Trifolium Hybridum).....	19	8 to 12 lbs.....	60
Awnless Brome Grass (Bromus Inermis).....	21	10 to 25 lbs.....	14
Beans, Soy (Glycine Hispida).....	15	$\frac{1}{2}$ to $\frac{3}{4}$ bu.....	60
Bent Grass.....	22	1 bu.....	14
Buckwheat, Japanese.....	25	1 bu.....	52
Barley, Champion Beardless (Sow for nurse crop 3 to 5 pks.).....	24	2 bu.....	48
Barley, Wisconsin Pedigreed.....	25	$1\frac{1}{2}$ bu. to 2 bu.....	48
Canada Blue Grass (Poa Compressa).....	21	40 lbs.....	14
Corn.....	12	9 lbs.....	56
Canada Field Peas.....	26	$1\frac{1}{2}$ to 3 bu.....	60
Clovers.....	18	8 to 15 lbs.....	60
Crimson or Scarlet Clover (Trifolium Incarnatum).....	19	14 to 20 lbs.....	60
Cow Peas (Vigna Unguiculata).....	26	$\frac{1}{2}$ to 2 bu.....	60
English or Perennial Rye Grass (Lolium Perenne).....	22	20 to 25 lbs.....	14
Fertilizers.....	10, 24		
German or Golden Millet.....	26	50 lbs.....	50
Grasses, Various.....	20		14
Hungarian Millet.....	26	48 lbs.....	48
Japanese Millet (In drills 10 to 12 lbs.).....	26	Broadcast 15 lbs.....	40
Kentucky Blue Grass (Poa Pratensis).....	21	40 lbs.....	14
Meadow Mixture, Dry.....	23	22 to 30 lbs.....	
Meadow Mixture, Moist.....	23	22 to 30 lbs.....	
Meadow Fescue (Festuca Pratensis).....	21	55 lbs.....	22
Millets.....	26		
Orchard Grass (Dactylis Glomerata).....	21	20 to 25 lbs.....	14
Oats (Avena Sativa).....	25	2 to 3 bu.....	32
Pasture Mixture, Dry.....	23	18 to 20 lbs.....	
Pasture Mixture, Moist.....	23	18 to 20 lbs.....	
Peas, Canada Field.....	26	$1\frac{1}{2}$ to 3 bu.....	60
Peas, Cow (Vigna Unguiculata).....	26	$\frac{1}{2}$ to 2 bu.....	60
Red Clover (Trifolium Pratense).....	18	10 to 15 lbs.....	60
Red Top (Agrostis Vulgaris).....	22	8 to 12 lbs.....	14
Rape, True Dwarf Essex (Brassica Napus).....	26	3 to 8 lbs.....	
Rye (Sow for nurse crop 3 to 5 pks.).....	25	$1\frac{1}{2}$ bu.....	56
Sheep's Fescue (Festuca Ovina).....	21	30 lbs.....	12
Sweet Clover (Mellilotus).....	19	20 to 25 lbs.....	60
Sugar Cane or Sorghum.....	26	3 to 100 lbs.; ordinarily 15 to 20 lbs.....	
Tall Meadow Oat Grass (Arrhenatherum Avenaceum).....	21	40 to 50 lbs.....	10
Tall Meadow Fescue (Festuca Elatior).....	21	35 lbs.....	14
Timothy (Phleum Pratense).....	22	10 to 15 lbs.....	45
Vetches, Spring (Vicia Sativa).....	24	50 to 75 lbs.....	60
Vetches, Winter (Vicia Villosa).....	23	40 to 50 lbs.....	60
Wheat (Triticum Sativum).....	25	2 to $2\frac{1}{2}$ bu.....	60
White Clover (Trifolium Repens).....	19	8 lbs.....	60

PRICE LIST OF BOOKS

(All quotations are postpaid.)

Books on Agriculture, Farming and Special Farm Crops

Alfalfa in America By Joseph E. Wing, 480 pages, cloth. Price, \$2.00 postpaid.

The most modern, comprehensive, practical and valuable work on Alfalfa ever written. The writer had much experience with the plant, growing it on his own farm and observing it in every state in which it can be grown. The book treats of the history, varieties and habits of Alfalfa; describes the conditions required by the plant and how to produce them where they do not exist naturally; tells how to prepare the soil; how to sow, care for and harvest the plant, the proper tools to use; how to erect suitable buildings for storing the hay. It describes the enemies of Alfalfa and how to combat them and discusses the soil in its relation to Alfalfa, its different constituents, and what fertilizers to use.

Alfalfa By F. D. Coburn, 400 pages, cloth. Price, \$2.00, postpaid. This is a standard work on Alfalfa growing by a well known authority; a very valuable book. It covers the ground thoroughly, discussing at length the plant, its culture and uses.

Alfalfa By F. D. Coburn, 160 pages, cloth. Price, 50 cents, postpaid. This book covers the same ground as the larger one by the same author, but in a condensed form.

Book of Vetch, The By Wm. C. Smith, 157 pages, cloth. Price, \$1.25, postpaid. All we need to say about this book is, that taken in connection with our own modest article in this catalogue, it contains practically all that is known about the Vetches today. The writer has had large experience with this plant, and values it as highly as we do ourselves.

Book of Corn, The By Herbert Myrick, 372 pages, \$1.50. This book is written by a large number of the world's corn experts. It is comprehensive and complete.

Farm Grasses of the United States By Spillman, 248 pages, cloth, \$1.00. This book covers every grass of any importance grown in the United States and shows its proper place in American agriculture.

Feeds and Feeding By W. A. Henry, 613 pages, cloth. New edition just out. Price, \$2.25, postpaid. This book is a cyclopedia of animal nutrition and rational feeding of farm animals. It shows how plants grow and elaborate food for animals, the functions of different nutrients, the production of flesh, fat and energy, how to calculate rations for farm animals. It gives the food values of the different feeding stuffs, the grains and grasses, mill and factory by-products. It sets forth the results of the tests of American and European experiment stations in feeding farm animals.

In Foreign Fields By Joseph E. Wing, 549 pages, cloth. Price, \$1.50, postpaid. In 1911 Mr. Wing was sent over a large amount of South American territory to collect wool statistics for the Tariff Board. "In Foreign Fields" gives in entertaining form the varied experiences which he had while on this trip, and also useful comment upon farm conditions as compared with our own.

Meadows and Pastures By Joseph E. Wing, 418 pages, cloth. Price, \$1.50, postpaid. Describes the best methods of making and maintaining meadows and pastures. Contains full descriptions and illustrations of all the agricultural grasses, with directions for planting and caring for them when established. Profusely illustrated and beautifully printed.

Soil Fertility and Permanent Agriculture By C. G. Hopkins, 653 pages, cloth. Price, \$2.70, postpaid. If there is anything you want to know about feeding, consult "Feeds and Feeding" above. If there is anything you want to know about soils, consult this book. It is the most scientific and complete and at the same time easily understood book on soil fertility that we have ever seen. It tells what soils are composed of, what food plants require, the effect upon soils of different fertilizers, different plants and different rotations, and clearly explains why these things are so. It is so tabulated and compiled that a busy man can ascertain anything that he wants to know in the minimum amount of time.

Story of the Soil By C. G. Hopkins, 350 pages, cloth. Price, \$1.62, postpaid. Dr. Hopkins, in giving us this book, has done inestimable good to permanent agriculture. This book gives simply, clearly and with remarkable logic, fundamental principles and theories which must be understood and applied to every soil in the country. It covers the entire ground, giving full scientific reasons for every deduction, but giving them in such a clear and easily comprehended form, that anyone can understand it.

Soiling Crops and the Silo By Thomas Shaw, 364 pages, cloth, \$1.50. The simplest and most comprehensive book that has ever been written on this subject.

The Book of Wheat By Peter Tracy Dondlinger, 370 pages, cloth, 2.00. This is an exhaustive treatise covering thoroughly the entire subject of wheat production, containing the most up-to-date and practical information on cultivation, harvesting, improvement, fertilizing, etc.

BOOKS ON VEGETABLES

Asparagus By F. M. Hexamer, 174 pages, cloth, 50c. This is the first book published in America exclusively devoted to this subject. The author not only shows how easy it is to grow the crop, but gives full instructions for the entire handling of it, with an appeal for the more general use of this delicious vegetable.

Bailey's Principles of Vegetable Gardening A very comprehensive and practical treatise on garden making. Tells how to lay out the ground, how to manage hothouses and frames, how to grow, market and store all vegetable crops. The book is nicely illustrated, copy-righted, and contains 450 pages of valuable information. Cloth, price, \$2.00, net; \$2.08 postpaid.

Cabbage, Cauliflower and Allied Vegetables By C. L. Allen, 128 pages, cloth, 50c. The author has had a lifetime's experience with these plants. This book treats very fully on the requirements and proper method of cultivating and general management of the entire cabbage crop.

Culinary Herbs By M. G. Kains, 150 pages, cloth, 75c. This is the only book we know of devoted to this class of plants. The writer, who thoroughly understands the subject, not only tells how to grow the most popular varieties of herbs used in America and Europe, but how to make money out of them, and how to use them to the best advantage in your own family.

Celery Culture By W. B. Beattie, 150 pages, cloth, 50c. A book both for beginners and experts, containing the most complete information for handling crop, either in a small or large way. Detailed instructions for every phase of this work.

Home Vegetable Garden, The By Adolph Kruhm, cloth, \$1.00. A book both for the beginner and small home gardener, and also for commercial gardeners. Absolutely up-to-date and full of valuable information, both as regards

proper methods and also a valuable discussion as to very best varieties.

Melon Culture By James Troop, 100 pages, cloth, 50c. This is a comprehensive book, giving full cultural instructions as well as descriptions of most varieties now under cultivation.

Weeds of the Farm and Garden By L. H. Pammel, 300 pages, cloth, \$1.50. Weeds cause a loss of several hundred million dollars annually in the United States. This book tells how to treat and remove them. Suitable for any farmer, gardener, or park superintendent.

Mushroom Growing By Duggar, 260 pages, \$1.50. The most complete and up-to-date book on this subject in America. Anyone interested in growing this crop should certainly have this valuable work.

New Onion Culture, The By T. Greiner, 140 pages, cloth, 50c. This thoroughly up-to-date book tells exhaustively of the new methods of growing onions, and also in order to enable the reader to compare it thoroughly, describes the old method.

Peas and Pea Culture By Glenn C. Sevey, 120 pages, cloth, 50c. This valuable little book gives in a condensed but complete form, everything that either the student or practical farmer needs to know about handling this crop.

Tomato Culture By Will W. Tracy, 150 pages, cloth, 50c. This book is invaluable for the man who wants the latest and most complete information on this subject. It is comprehensive and complete.

Vegetable Gardening By R. L. Watts, 550 pages, cloth, \$1.75. This is a thoroughly complete, up-to-date book, adapted either to small or large growers. It gives not only a general discussion of proper methods for growing all classes of vegetables, but specific instructions with regard to all the important varieties.

BOOKS ON GROWING FLOWERS

The Garden You and I By Mabel Osgood Wright. A delightful book by the author of "The Garden of a Commuter's Wife." Instructions for growing all kinds of outdoor plants, the preparing of the seed bed, the proper placing of the different kinds, are told in a series of letters from "Barbara" to her friend, "Mary Penrose," who wishes to beautify her home, and whose "family pocketbook" has collapsed. A pretty story runs throughout the book, and there are many humorous and delightful happenings. Price, \$1.50.

A Plea for Hardy Plants By J. Williamson Elliot. This most helpful and inspiring book will appeal to every garden maker. It is full of sensible and practical suggestions. It is very comprehen-

sive, thoroughly covering the subject of hardy plants, their use and the best methods of growing them. It is splendidly illustrated. Considering its mechanical perfection, the price is ridiculously small. Price, \$1.60, net.

Practical Flower Garden, The By Helena Ruth-
erford Ely. In this charming book Mrs. Ely gives complete and practical instructions for the culture of all the important flowers. In her lucid and delightful style she tells her experiences in her own garden, where grow all the flowers she describes. The book is beautifully gotten up, with eight colored plates and many other illustrations, and would make a splendid gift. Cloth, 12 mo., net \$2.00; by mail, postpaid, \$2.16.

REFERENCE TABLES

Quantity of seed requisite to produce a given number of plants and sow an acre.

Quantity per acre.

Artichoke, 1 oz. to 500 plants.....	6	oz.
Asparagus, 1 oz. to 800 plants.....	1	"
Asparagus Roots.....	1000 to 7250	
Barley.....	1 to 2	bu.
Beans, dwarf, 1 pt. to 100 ft. of drill..	1	"
Beans, pole, 1 pt. to 100 hills.....	1/2	"
Beet, garden, 1 oz. to 100 ft. of drill..	7	lbs.
Beet, Mangel, 1 oz. to 100 ft. of drill..	5	"
Broccoli, 1 oz. to 5,000 plants.....	2	oz.
Brussels Sprouts, 1 oz. to 5,000 plants..	2	"
Buckwheat.....	1/2	bu.
Cabbage, 1 oz. to 5,000 plants.....	2 1/2	lbs.
Carrot, 1/4 oz. to 100 ft. of drill.....	2 1/2	lbs.
Cauliflower, 1 oz. to 5,000 plants.....	2	"
Celery, 1 oz. to 15,000 plants.....	4	lbs.
Chicory.....	8 to 10	"
Clover, Alsike.....	15 to 20	"
" Alfalfa or Lucerne.....	10 to 15	"
" Mammoth and Medium.....	2	qts.
Collards, 1 oz. to 5,000 plants.....	1 to 2	bu.
Corn, rice (shelled).....	12	lbs.
Corn, sweet, 1/4 pt. to 100 hills.....	1 to 3	bu.
Cowpea, in drills.....	1 to 3	lbs.
Cress, 3/4 oz. to 100 ft. of drill.....	4 1/2	lbs.
Cucumber, 1 oz. to 100 hills.....	4	oz.
Dill, 1/2 oz. to 100 ft. of drill.....	4 1/2	lbs.
Egg Plant, 1 oz. to 2,000 plants.....	4	"
Endive, 1/4 oz. to 100 ft. of drill.....	30	"
Gourd, 2 oz. to 100 hills.....	40	lbs.
Grass, Blue, Kentucky.....	40	"
" Blue, Canada.....	35	"
" Hungarian and Millet.....	50 to 70	"
" Meadow Fescue.....	8 to 10	"
" Mixed Lawn.....	12	"
" Red Top Fancy.....	30	"
" Timothy.....		"
" Orchard, Perennial Rye and Wood Meadow.....		"

Quantity per acre.

Horse Radish Roots.....	10000 to 15000	
Kale, 1 oz. to 5,000 plants, or 200 feet of drill.....	4	lbs.
Kohl Rabi, 1/2 oz. to 100 ft. of drill..	4	"
Leek, 1/2 oz. to 100 ft. of drill.....	3	"
Lettuce, 1/4 oz. to 100 ft. of drill....	1 to 3	"
Melon, Musk, 1 oz. to 100 hills.....	1 1/2 to 4	"
" Water, 4 oz. to 100 hills.....	15	"
Nasturtium, 2 oz. to 100 ft. of drill..	8	"
Okra, 1 oz. to 100 ft. of drill.....	4 to 5	"
Onion Seed, 1/2 oz. to 100 feet of drill.....	40 to 80	bu.
Onion Seed for Sets.....	8	lbs.
Parsnip, 1/4 oz. to 100 ft. of drill....	3	"
Parsley, 1/2 oz. to 100 ft. of drill....	1 to 3	bu.
Peas, garden, 1 pint to 100 feet of drill.....	1 to 2	bu.
Peas, field.....	4 to 5	"
Peas, Sweet, 4 oz. to 50 feet.....	3 to 4	lbs.
Pepper, 1 oz. to 1,500 plants.....	10 to 12	"
Pumpkin, 1/4 qt. to 100 hills.....	1 1/2	bu.
Radish, 1/2 oz. to 100 feet of drill.....	4 to 5	lbs.
Ruta Baga.....	8	"
Rye.....	3/4	"
Sage in drills.....	2	"
Salsify, 3/4 oz. to 100 ft. of drill.....	2	"
Spinach, 1/2 oz. to 100 ft. of drill....	30 to 40	"
Summer Savory.....		"
Sunflower.....		"
Squash, Summer, 4 oz. to 100 hills..		"
" Winter, 8 oz. to 100 hills.....		"
Tomato, 1 oz. to 4,500 plants.....		"
Tobacco, 1 oz. to 5,000 plants.....		"
Turnip, 1 oz. to 250 ft. of drill.....		"
Vetches, Spring.....		"
" Winter.....		"

Standard weights of various articles

	Per bu.
Barley.....	48 lbs.
Beans.....	60 "
Buckwheat.....	48 "
Clover Seed.....	60 "
Corn, field, shelled.....	56 "
Corn, field, on ear.....	70 "
Corn, sweet, sold by measured bushel.....	45 "
Grass, Timothy.....	48 "
Hungarian.....	50 "
Millet, common.....	50 "
Millet German or Golden.....	50 "
Peas, smooth.....	56 "
Peas, wrinkled.....	50 "
Rape.....	56 "
Rye.....	56 "
Sugar Cane (Sorghum).....	50 "
Vetches or Tares.....	60 "

We sell the following articles by weight

Grass, Rhode Island Bent.....	
" Creeping Bent.....	
" Red Top Fancy.....	
" Tall Meadow Oat.....	
" Awnless Brome.....	
" Orchard.....	
" Hard Fescue.....	
" Red or Creeping.....	
" Fescue.....	
" Tall Fescue.....	
" Sheep's Fescue or Meadow Fescue or English Blue Grass.....	
" Perennial Rye.....	
" Wood Meadow.....	
" Kentucky Blue.....	
" Canadian Blue.....	

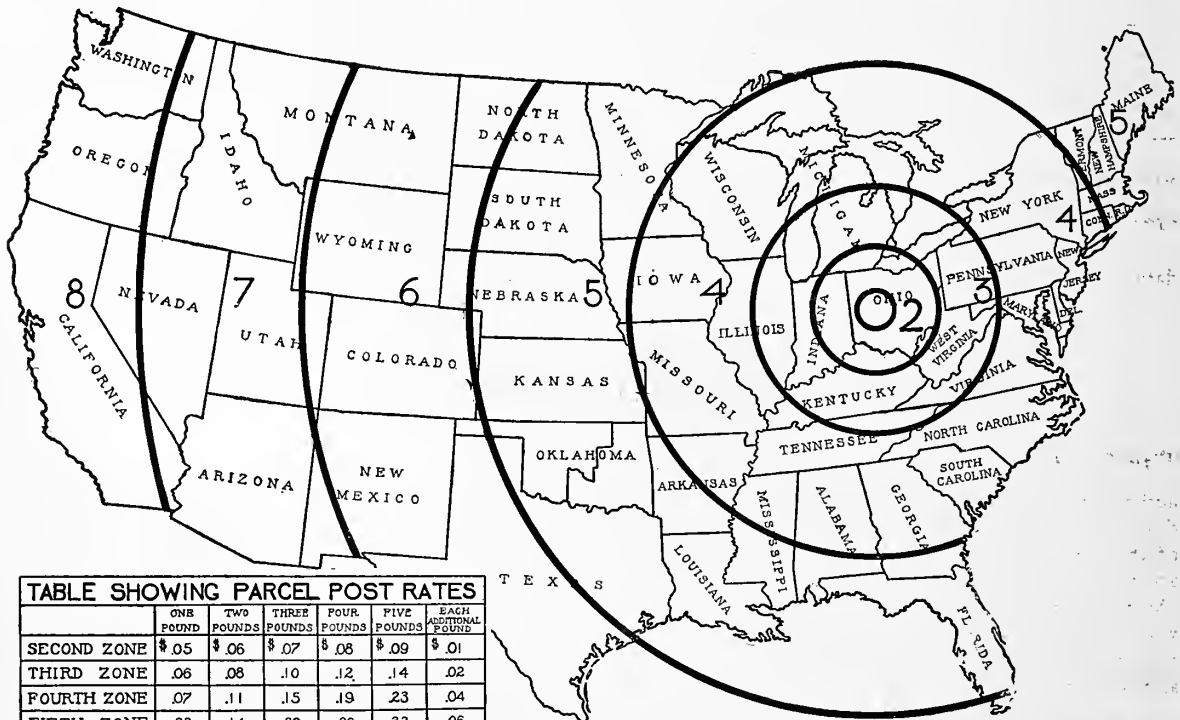


TABLE SHOWING PARCEL POST RATES

	ONE POUND	TWO POUNDS	THREE POUNDS	FOUR POUNDS	FIVE POUNDS	EACH ADDITIONAL POUND
SECOND ZONE	.05	.06	.07	.08	.09	.01
THIRD ZONE	.06	.08	.10	.12	.14	.02
FOURTH ZONE	.07	.11	.15	.19	.23	.04
FIFTH ZONE	.08	.14	.20	.26	.32	.06
SIXTH ZONE	.09	.17	.25	.33	.41	.08
SEVENTH ZONE	.11	.21	.31	.41	.51	.10
EIGHTH ZONE	.12	.24	.36	.48	.60	.12



Celery in our Trial Grounds.

GARDEN AND FLOWER SEED DEPARTMENT

IT IS gratifying to see one's best efforts rewarded. We have worked hard to get the best vegetable and flower seeds in the world, and this department of our business has been growing very rapidly indeed. Better yet, our customers are all satisfied. For the benefit of those who do not know us, we wish to say that we try to make our descriptions conservative and to show relative merits between different varieties, believing this to really serve the interests of our customers better than to simply give flattering descriptions of each and every sort. Every one of our seeds is carefully tested out in our trial grounds, so that we positively know what quality we are putting out. Stocks which we do not grow ourselves are grown for us by the world's experts. We have made no effort to catalogue novelties whose merits we were not sure of, nor to catalogue a larger number of plants than were actually the very best. We believe we have the very best vegetables and flowers grown, and that our list is complete and choice enough to suit the most exacting. All our flower seeds are tested for germination just as carefully as our field seeds.

Our flower and vegetable trial grounds are worth coming many miles to see. Throughout the season they present an ever changing study of the choicest plants in this line that the world's experts have been able to produce. Our flower seeds are tested out just as carefully as the vegetables, and our grounds present a beautiful spectacle of striking and brilliant things, such as Cannas, Gladioli and Dahlias, and the smaller and daintier flowers as well. We have done much work breeding and improving the various plants which we handle. Our propagating grounds now include the world's choicest varieties in Dahlias, Gladioli, Cannas, Peonies, Iris and Hardy Phlox. We were not quite ready to catalogue Peonies and Hardy Phlox this year, but next year we will have some real treats for our customers in these and other plants. Finally we wish to say that we are doing this work not only to make a living, but for the love of the plants themselves. It is a hobby developed into a business.

CULTURAL DIRECTIONS

We have included some simple cultural directions in our vegetable and flower seed matter. These directions apply to our own latitude of 40 degrees, and in places very far to the north or to the south of us they should be modified to suit local conditions.

SEEDS PREPAID

We prepay postage or express on all vegetable and flower seeds ordered by packet, ounce, quarter-pound, pound, pint or quart, to any part of the United States or its colonies. Quantities ordered above these amounts go at purchaser's expense. When ordering by parcel post, please include postage with order. For table showing parcel post rates in effect October 20, 1915, see page 30. This will show our customers the approximate amount of postage to add when ordering by parcel post. We guarantee safe delivery, no matter how the goods are shipped.

Customers will please not forget to sign their names, and to give both their postoffice and shipping point very plainly. We advise them to keep a copy of their order for comparison. If any error is made in filling, we will gladly rectify it upon advisement.

Last year we experienced some very vexatious delays in receiving some of our European stocks, but this year we are glad to say that we have stocks in the house of everything we are cataloguing with the exception of a few varieties of flower seeds. These we have marked with an asterisk (*). We trust to have these in addition to the others, but offer them subject to safe arrival in time for planting.

Special Prices on Large Amounts of Seed.

COLLECTIONS

Special Premium Offer for 1916

IN ORDER to acquaint those of our customers who order garden seeds only, with the high quality of our field seeds, we offer the following premium. With each two dollar order for vegetable or flower seeds, we will send, when requested, as a special free premium, one ounce each of the following field seeds: Alfalfa, Dakota Acclimatized; each variety of our Soy Beans; each variety of our Seed Corn; Winter Vetch; Bromus Inermis; Tall Meadow Oats; Meadow Fescue.

This offer is made upon the condition that the garden seeds are ordered at regular prices, and no collection or special premium must be included. Or, we will send this same collection with one dollar's worth of garden or flower seeds at regular catalogue prices and twenty-five cents additional; or, we will send the collection for fifty cents, postpaid.

Customers who do not care to try our field seeds may select fifty cents' worth of either flower or vegetable seeds as their premium, when buying two dollars' worth of garden seeds at regular prices.

ONE DOLLAR COLLECTION

This collection is made up when we are not busy and it is on this point that we make our saving. The seeds are as choice as can be found anywhere; the varieties of the very best.

For one dollar we give you one packet each of

Beans—Keeney's Stringless Refugee Wax.
Beans—Kentucky Wonder Wax.
Beans—Burpee's Bush Lima.
Beet—Detroit Dark Red Turnip.
Cabbage—Copenhagen Market.
Cabbage—Glory of Enkuizen.
Celery—White Plume.
Cucumber—Fordhook Famous.
Cucumber—Davis Perfect.
Corn, Sweet—Peep-O-Day.
Corn, Sweet—Golden Bantam.
Corn, Sweet—Black Mexican.
Lettuce—May King.
Lettuce—Simpson's Early Curled.
Lettuce—Cos, White Paris.
Watermelon—Kleckley Sweet.

Muskmelon—Rockyford.
Muskmelon—Burrell Gem.
Onion—Yellow Globe Danvers.
Onion—Prizetaker.
Parsnip—Guernsey.
Pepper—Neapolitan.
Peas—Little Marvel.
Peas—Duke of Albany.
Radish—Vick's Scarlet Globe.
Radish—Long Icicle.
Squash—Summer Fordhook.
Squash—Turk's Cap.
Tomato—Earliana.
Tomato—Dwarf Champion.
Tomato—Ponderosa.
Turnip—Early Snowball.

FIFTY-CENT COLLECTION

For the small garden. For fifty cents we will send you one packet each of

Beans—Burpee's Bush Lima.
Beans—Kentucky Wonder.
Beet—Detroit Dark Red Turnip.
Cabbage—Copenhagen Market.
Cucumber—Fordhook Famous.
Corn, Sweet—Golden Bantam.
Lettuce—Simpson's Black Seeded.
Lettuce—Cos, White Paris.

Muskmelon—Rockyford.
Onion—Ohio Yellow Globe.
Parsley—Fine Double Curled.
Peas—Little Marvel.
Peas—Duke of Albany.
Radish—Long Icicle.
Tomato—Dwarf Stone.

Spargel ASPARAGUS Esparrago

ONE OF THE EARLIEST and most delicious spring vegetables. Every one should have a bed, and it is also profitable to grow for market. You can sow seed or set plants, either of which we will furnish you. The seed should be sowed in drills two inches deep, on good rich ground, cultivated throughout the summer, the plants not allowed closer than one inch apart. The following spring they are ready to set in beds. These beds should be deeply spaded and well enriched. The plants should be set about four inches deep, one to two feet apart, in rows four to six feet apart. Cultivate the first season. Each succeeding year a heavy dressing of manure should be applied. Salt is also beneficial and helps to keep down the weeds. Hardwood ashes are good. In cutting, remove all the shoots, no matter how small; cultivate frequently until the plants meet in the rows. In the fall, the tops, when ripe, should be cut and burned. One hundred plants should easily supply an ordinary family. Do not cut shoots too late in the summer.

CONOVER'S COLOSSAL—The standard variety. A luxuriant producer. The stalks large, green, early and tender. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

COLUMBIAN MAMMOTH WHITE—This variety differs from Colossal in having white stalks instead of green. Shoots are tender and of excellent quality. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 65c.

PALMETTO—A Southern variety with green stalks, very early and prolific; even and regular in its growth. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c.

BONVALLET'S GIANT—A very strong growing, luxuriant asparagus, having the longest season of any. It is extremely rust-resisting and produces plants fit for cutting about a year sooner than other varieties. Pkt., 5c; Oz., 15c; ¼ Lb., 35c; Lb., \$1.35.

EARLY GIANT ARGENTEUIL—A favorite Parisian variety, very largely used in France. It resists rust, grows vigorously and has excellent flavor. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 90c.

Bohnen **BEANS** Habichuela**DWARF WAX BEANS**

WHILE BEANS will grow on poor ground, they appreciate good soil. If too much fresh manure is used, it may make them run too much to vine. They are warm weather plants and should not be sown until after corn planting time when the ground is warm. They may be planted two to three feet apart, covering the seed 1½ inches deep. When drilled they should be three to six inches apart in the drill. Frequent cultivations up to blossom time are necessary. Cultivation should always be shallow. Avoid working among the beans when they are wet, as it tends to make them rust. Lima Beans should not be planted until the last of May. Pole Beans should be planted in hills four feet each way. A quart of Limas plants 100 hills; of the smaller sorts 200 hills. A quart of snap beans plants 150 feet of drill.

BRITTLE WAX—Very early. A splendid variety, the pods almost perfectly round, about 5½ in. long, fat, very brittle, no strings, splendid quality. The yield in our trial grounds was good. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.75.

BURPEE'S NEW KIDNEY WAX—Moderately early. The pods, with us, about six inches, flat, very meaty, brittle, with no strings and a good yield. The quality of this bean is excellent. Pkt., 10c; Pt., 25c; Qt., 40c; Pk., \$2.00.

KEENEY'S STRINGLESS REFUGEE WAX—One of the very finest dwarf snap beans. The pods about 5 inches, nearly round, brittle, entirely stringless, prolific; a standard canning variety. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.75.

CURRIE'S RUST PROOF GOLDEN WAX—Very early. This variety has handsome, flat pods, moderately meaty, five inches long, with some strings. The yield is unusually heavy. We find it to be entirely free from rust. Pkt., 10c; Pt., 20c; Qt., 40c; Pk., \$2.25.

DAVIS' KIDNEY WAX—The mid-season sort, pods six inches, smooth, fairly meaty, has some strings. The yield is excellent. This variety is excellent used dry for baking. As a string bean use while the pods are young. Pkt., 10c; Pt., 25c; Qt., 45c; Pk., \$1.75.

GOLDEN EYE WAX—Fairly early. Pods five inches, flat, meaty, has strings. Should be used when young. It is free from rust and good yielding. Pkt., 10c; Pt., 20c; Qt., 40c; Pk., \$2.25.

GOLDEN WAX—A medium early variety, good yielding, pods about four inches, flat, yellow, stringless. A good rust resisting bean. Ours is the best Grenell strain. Pkt., 10c; Pt., 25c; Qt., 40c; Pk., \$1.75.

HODSON WAX—This variety is a trifle late. When confronted with drouth conditions it made no yield at all until rains came. After that it came on and made the heaviest yield in our trial grounds. The pods are nearly round, fat, have strings; free from blight or rust. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.25.

KEENEY'S RUSTLESS GOLDEN WAX—Early. A strong growing, rustless variety with flat pods, 4¼ inches long, brittle, not remarkably meaty, nearly stringless. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.75.

PROLIFIC GERMAN BLACK WAX—(Cylinder Pod.) Quite early, prolific, pods about four inches, round, meaty, with few strings. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.75.

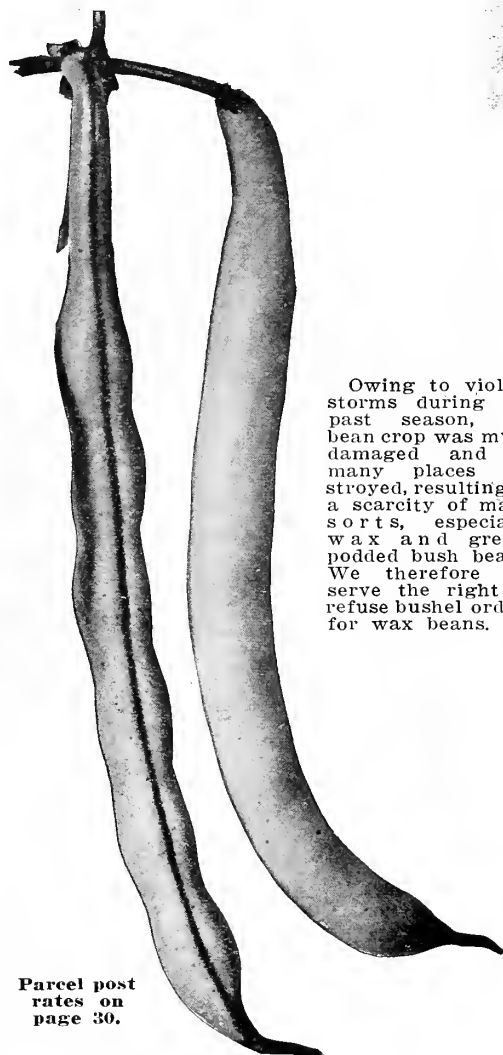
BLACK PENCIL POD WAX—Early, productive, medium length pods, round, meaty, stringless. Pkt., 10c; Pt., 25c; Qt., 40c; Pk., \$2.25.

ROUND POD KIDNEY WAX—One of the very best mid-season varieties. The pods long and round, meaty, stringless, a good yielder; an excellent canning variety. Pkt., 10c; Pt., 25c; Qt., 45c; Pk., \$2.00.

NEW SURE CROP STRINGLESS WAX—Moderately early. Recommended for dry weather. Pods about six inches long, nearly round, meaty and brittle; a good yielder. Pkt., 10c; Pt., 25c; Qt., 45c; Pk., \$2.25.

WARDWELL'S KIDNEY WAX—A favorite with market gardeners. Very early, pods handsome, flat, yellow, six inches long, stringless, moderately meaty; a reasonably good yielder. Pkt., 10c; Pt., 25c; Qt., 45c; Pk., \$2.25.

BOSTON SMALL PEA—A standard field variety that yields very well, produces small, white peas, suitable for soup or baking. One of the best for this purpose. Pkt., 10c; Pt., 20c; Qt., 30c; Pk., \$1.50.



Brittle Wax.

Owing to violent storms during the past season, the bean crop was much damaged and in many places destroyed, resulting in a scarcity of many sorts, especially wax and green-podded bush beans. We therefore reserve the right to refuse bushel orders for wax beans.

Parcel post
rates on
page 30.

GREEN PODDED BUSH BEANS

FORDHOOK FAVORITE BUSH—A new bean of great merit. The vines are large, pods large, round, perfectly stringless and brittle. Nearly as early as any variety. It is very difficult to beat this variety. Pkt., 15c; Pt., 30c; Qt., 50c; Pk., \$3.00.

BOUNTIFUL—Early, very heavy yielder, five and one-half inches long, flat, not very meaty; has strings. An excellent field variety for soup beans; a sure cropper; one of the old standard sorts. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.75.

Burpee's
Kidney
Wax.



**Fordhook
Favorite
Bush.**

Green Podded Bush Beans are extremely scarce, and we reserve the right to refuse bushel orders or orders for Beans alone not accompanied by other seeds.

HORTICULTURAL CRANBERRY—Pods rather short, about four inches, flat; when ripening splashed with red. They must be eaten young before becoming tough, or else used as dry beans. The yield is excellent. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.75.

REFUGEE OR ONE THOUSAND TO ONE—A rather late variety; one of the heaviest yielders in our trial grounds. Pods medium length, round, fat, have strings. Vines quite large. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.75.

LONGFELLOW—Moderately early, pods about 6 inches, nearly round, smooth, fairly meaty, has strings. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.00.

EXTRA EARLY REFUGEE—Early, with pods about 5 inches long; much earlier than Late Refugee. An excellent market bean and stands shipment well. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.25.

STRINGLESS GREEN POD—Moderately early. Pods about 4 inches, meaty, entirely stringless; an excellent canning bean. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.75.

GIANT STRINGLESS GREEN POD—Pods about 5 inches, smooth, moderately flat, brittle and stringless. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.75.

LONG YELLOW SIX WEEKS—Pods 5 inches, flat, moderately meaty, has strings. Must be eaten when young, but makes an excellent shipper. Pkt., 10c; Pt., 20c; Qt., 30c; Pk., \$1.75.

VALENTINE EXTRA EARLY—Moderately early. Pods 4 inches, round, meaty, has strings. Yield is good, and the variety is very much liked by market gardeners. Pkt., 10c; Pt., 20c; Qt., 30c; Pk., \$1.50.

FULL MEASURE (New)—A rather early variety. Pods about 4½ inches, round, fat, meaty and stringless; an excellent shipper, or good for home use. Pkt., 10c; Pt., 20c; Qt., 30c; Pk., \$1.50.

We have good stocks of all varieties of Pole Beans, including the Limas. We also have good stocks of Bush Limas and would suggest to our customers that in the event of not being able to procure Wax or Green-Podded Bush Beans, they use some of these instead.

POLE BEANS

BURGER'S STRINGLESS GREEN POD—A decidedly early and very prolific handsome bean, pods five inches long, round, fat, with no strings. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.50.

DUTCH CASE KNIFE—Moderately early. Pods 4½ inches, flat, fairly meaty, have strings, are excellent for dry beans. Pkt., 10c; Pt., 15c; Qt., 30c; Pk., \$1.75.

KENTUCKY WONDER OR OLD HOMESTEAD—An excellent bean, heavy yielding, a good quality. Pods 5 inches, round, meaty, brittle, with no strings. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.00; Bu., \$7.50.

KENTUCKY WONDER WAX—A striking bean, very handsome and very prolific, early, pods 5 inches long, light yellow, flat, meaty, have some strings. This was the best yellow-podded pole bean in our trial grounds this season. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.00.

LAZY WIFE—Mid-season. Pods about 3½ inches long, green, flat, fairly meaty, brittle, with no strings; good for shelling. Pkt., 10c; Pt., 30c; Qt., 50c; Pk., \$1.80; Bu., \$6.75.

WHITE CREASEBACK—A heavy yielding, green pod variety. Pods 5 inches, round, meaty, brittle, with few strings. The pods all mature together and yield heavily; also good to shell. Pkt., 10c; Pt., 30c; Qt., 45c; Pk., \$1.60; Bu., \$6.75.



Kentucky Wonder Wax.

Write for prices on
large amounts.



Seibert Lima.

We prepay postage
on Beans in packets,
pints and quarts;
larger amounts go at
purchaser's expense.

BUSH LIMA BEANS

BURPEE'S BUSH LIMA—A standard early variety, the pods about 4 inches; a good yielder and of good quality. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.85; Bu., \$7.00.

BURPEE'S IMPROVED BUSH LIMA—A moderately early, heavy yielding variety, with pods a trifle larger and more beans to the pod than with the original Burpee's Bush. Pkt., 10c; Pt., 30c; Qt., 50c; Pk., \$2.50; Bu., \$9.00.

FORDHOOK BUSH LIMA—This variety is decidedly our preference among the Bush Lima Beans. It is nearly as early as any, the pods about 4 inches, medium size, well filled, the beans very plump and fine quality. With us it yields continuously all summer, in this respect being greatly superior to any other sort. Pkt., 10c; Pt., 35c; Qt., 60c; Pk., \$3.25; Bu., \$10.00.

HENDERSON BUSH LIMA OR DWARF SIEVA—Rather a small plant and small pods, about 3 inches long; three small seeds to the pod. The earliest Bush Lima; a heavy yielder and good quality. Pkt., 10c; Pt., 20c; Qt., 30c; Pk., \$1.65; Bu., \$6.50.

POLE LIMA BEANS

CHALLENGER—Pods about 4½ inches, medium sized, about four beans to the pod; an extra good yielder, the beans not quite as large around as some other varieties but very plump; one of the earliest varieties. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.00; Bu., \$7.00.

CARPENTERIA—Rather late. Pods 4½ to 5 inches, about four beans; the pods large, yield good. The beans are very large, rather flat and excellent quality. Pkt., 10c; Pt., 25c; Qt., 40c; 4 Qts., \$1.00; Pk., \$1.85; Bu., \$7.50.

IDEAL LIMA—Medium in maturity. Pods about 3 inches, rather smaller than average; the seed about as large, however, as other varieties. A good yielder. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$2.25; Bu., \$8.00.

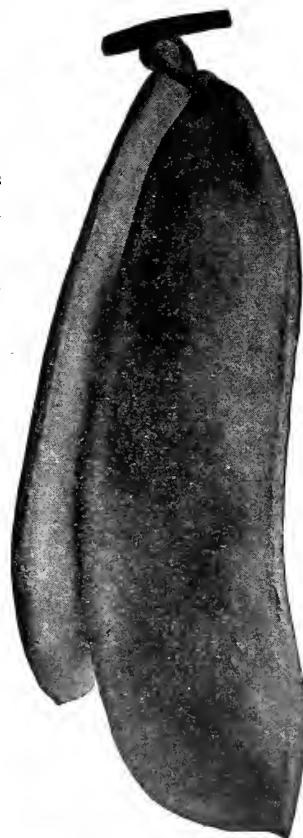
LARGE WHITE LIMA—The old standard strain. Medium in maturity. Pods 4 inches, medium size. The beans medium sized to large; a good yielder. Pkt., 10c; Pt., 20c; Qt., 30c; Pk., \$1.85; Bu., \$7.00.

KING OF THE GARDEN LIMA—A large podded, heavy yielding, medium early variety. The pods 5 to 6 inches, very broad; the beans nearly as large as Carpenteria. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.80; Bu., \$7.50.

SEIBERT'S EARLY LIMA—Medium early. Pods about 4½ inches with four beans. Beans average size and plump; an excellent yielder. Pkt., 10c; Pt., 20c; Qt., 30c; Pk., \$1.25; Bu., \$7.00.

SMALL SIEVA—Small, pods about 3 inches, with three beans. The beans much smaller than other varieties of Limas. Very early, prolific and good quality. Pkt., 10c; Pt., 20c; Qt., 40c; Pk., \$1.85; Bu., \$7.00.

LEVIATHAN—Moderately early. Pods 4 inches, medium size. Beans plump and medium size; a good yielder. Pkt., 10c; Pt., 20c; Qt., 35c; Pk., \$1.85; Bu., \$7.50.



Lima Challenger.

Spargel Kohl BROCCOLI Broccoli

Sow as soon as the ground can be worked in the spring, in shallow drills. When plants are about 4 inches high, set out two feet apart each way. Cultivate same as cabbage in rich soil and use the same remedies for insect attacks. A vegetable similar to the Cauliflower but harder; can be grown farther north than Cauliflower. It requires similar cultivation and treatment to Cauliflower.

LARGE WHITE EARLY FRENCH—Plants very hardy, vigorous; heads white, compact, and all good quality. Medium sized. Pkt., 10c; Oz., 30c; ¼ Lb., \$1.00.

Rosenkohl BRUSSELS SPROUTS Bretones de Bruselas

Plant in rich soil in hills two feet apart each way, one plant to the hill. Brussels Sprouts are miniature cabbages formed on a plant stalk. They should be handled about like cabbage, but must be started early in this latitude or they will not mature heads.

LONG ISLAND IMPROVED—A variety much used for the New York market. Dwarf habit, very prolific. Pkt., 5c; Oz., 15c; ¼ Lb., 40c.

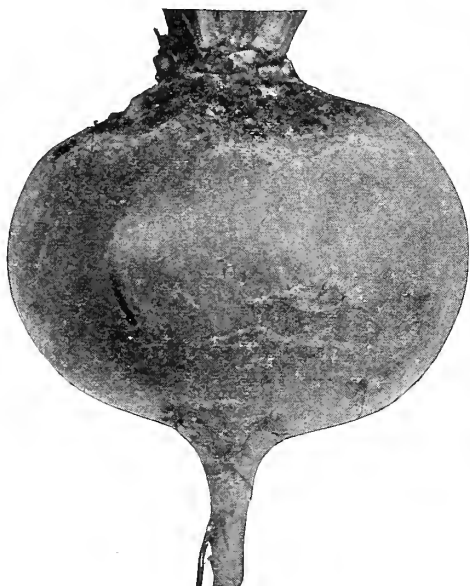
PARIS MARKET—A standard sort in most parts of the country, the sprouts being of very delicate flavor. Pkt., 5c; Oz., 15c; ¼ Lb., 40c.

Rube **BEET** Remolacha

This year we showed table Beets at the Ohio State Fair, showing for best collection only, and won first on our exhibit.

Beets do best on rather light, rich soil, well manured. If desired for very early use they may be sown in hotbed and transplanted. For main crop, sow as soon as the ground is fit to work in drills 18 inches apart, 1 inch deep. For winter use, the turnip varieties may be sown as early as June and the seed covered 2 inches. The roots may be stored in a cellar, covered with sand or sandy soil, or they may be kept outdoors in pits such as are used for apples and potatoes. Sow seven pounds seed per acre.

KELWAY'S CHOICE DWARF DARK (New)—A half long variety, very dark colored and tender, and of the very best flavor. It has a small top, is rich looking, smooth and excellent for exhibition. We were fortunate enough to secure this Beet direct from its originator, and our stocks are simply as good as they can possibly be. Pkt., 10c; Oz., 15c; $\frac{1}{4}$ Lb., 45c; Lb., \$1.50.



Eclipse.

BASTIAN'S EARLY TURNIP—Largest of the turnip-shaped Beets. Bright red exterior; flesh purplish-red zoned with white. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 35c; Lb., 75c.

BASSANO—Turnip-shaped; early; excellent for table use; tops make good greens; flesh in zones of white and pink. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 75c.

DETROIT DARK RED TURNIP—Deservedly most popular sort. Turnip-shaped, smooth and uniform. Top small; skin dark; blood red; flesh dark, zoned with a lighter shade. Excellent for market gardeners or home use. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.25.

DEWING'S IMPROVED BLOOD TURNIP—Largely used for main crop; tops medium sized; roots turnip-shaped; flesh crimson, red zoned with lighter shade. Pkt., 5c; Oz., $\frac{1}{4}$ Lb., 25c; Lb., 75c.

EARLY BLOOD TURNIP—Smooth, round roots, medium sized. Rather later in maturing than Detroit Dark Red. Flesh deep red, zoned with lighter shade. Excellent for summer and autumn use. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 85c.

ECLIPSE—Very early. Especially desirable for home garden or market use. Tops small; roots deep red; smooth; flesh bright red, zoned with a lighter color. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 85c.



Kelway's Dwarf Dark.

EDMAND BLOOD TURNIP—Unusually attractive Beet. Very desirable for market gardeners. Roots smooth, round, color lighter than Detroit. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 75c.

EXTRA EARLY EGYPTIAN—A good variety for forcing or first early crop outdoors. Small tops; flesh medium dark; roots rather flat on the bottom. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 75c.

CROSBY'S EGYPTIAN—Roots flattened; globe-shaped; very smooth and uniform. An excellent market gardener's sort or for home use. Extremely early; color, rather dark. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.25.

HALF LONG BLOOD—Half long, deep red Beet; uniform and smooth; flesh dark. Good for winter. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 85c.

SWISS CHARD, or SPINACH BEET

Used extensively for greens and excellent for this purpose; a few plants producing all summer and being very economical of space. The quality is excellent, usually liked better than Beets. Sow early in spring in drills 16 inches apart, thin to 6 inches in the row. The leaf stems may be cooked like Asparagus, or make good pickles. One ounce is sufficient for a medium sized family.

LUCULLUS—Plants grow about 2½ feet high, stalks fully as large and thick as Rhubarb, of excellent quality, leaves heavily crumpled and savoyed. Leaves are cooked like Spinach, the stalks like Asparagus. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c.



New Swiss Chard, Lucullus.

MANGEL WURZEL

MANGEL WURZELS require deep soil that has been plowed deeply and well filled with manure. Sow in May or June in rows 18 inches to two feet apart; thin to 8 inches in the row. As soon as frost occurs, dig the crop. They may be heaped about 6 feet deep on a dry, sloping situation, covered at first with canvas, later with 6 inches of straw, corn stalks, etc., with a light layer of earth on top. When this surface soil becomes frozen, 6 or 8 inches more earth should be placed over it. This gradual covering prevents heating and the roots keep in perfect order. Sow about six pounds seed per acre.

KELWAY'S CRIMSON KING (New)—The grower claims for this Mangold, not only good yield, easily harvested, but the best feeding qualities of any variety grown, and says that stock will leave other varieties for it. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 55c.

GIANT YELLOW INTERMEDIATE—A large, smooth variety, grows two-thirds out of ground, easily pulled, comparatively small top, good keeper and heavy cropper. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 40c. Express, not paid, 5 Lbs., \$1.50; 10 Lbs., \$3.00.

GOLDEN TANKARD—Smooth, yellow fleshed, with large roots which taper quickly at the bottom. Tap root small, grows largely out of ground and easily harvested, a heavy yielder. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 40c. Express not paid, 5 Lbs., \$1.50; 10 Lbs., \$3.00.

MAMMOTH PRIZE LONG RED—One of the heaviest yielding varieties; roots one-half to two-thirds out of ground, tapering sharply; flesh-white with rose-colored rings. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 40c. Express not paid, 5 Lbs., \$1.50; 10 Lbs., \$3.00.



Detroit Dark Red.

SUGAR BEET

HOW OUR SUGAR BEET SEED IS GROWN.

THE CARE GIVEN this seed is wonderful. A field containing probably 250,000 roots is dug, and experts go over them, selecting from the total only 2,500. Again experts go over this smaller number, and take out little cores for analysis. After receiving the laboratory report these 2,500 are reduced to 250 of the very choicest. These 250 roots are cared for all winter, and in the spring are set out in a small plot of ground, one man given charge, with nothing else to do but watch over them. He nurses them in every possible way, even going so far as to make cloth covers for each plant, placing these over them when in blossom, thereby preventing cross-fertilization. Seed from these plants then goes to the fields as stock seed, and our seed comes to us from these fields. There are very few growers who take as much care as this of their seed.

KLEIN WANZLEBEN—This is extensively grown both for stock feeding and for the sugar beet factories. Roots a little larger than Vilmorin's Improved, tops rather large, yields heavily and easily grown. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 50c. Express not paid, 5 Lbs., \$1.75.

LANE'S IMPERIAL—A variety used for stock feeding, large, smooth, rose-colored, a heavy yielder. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 50c. Express not paid, 5 Lbs., \$1.75.

VILMORIN'S IMPROVED—Grown both for sugar factories and stock feeding, a heavy yielder and good keeper. Our stock comes direct from France, and is the very best obtainable. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 50c. Express not paid, 5 Lbs., \$1.75.

GIANT HALF SUGAR ROSE—Used for stock feeding, a very heavy yielder, roots partly out of ground, easily harvested. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 50c. Express not paid, 5 Lbs., \$1.75.



Special prices on large amounts of Sugar Beets and Mangel Wurzel's

Kelway's Crimson King.

Kohl **CABBAGE** Col repello

Cabbage in Our Trial Grounds.

CABBAGE REQUIRES a reasonably rich soil, with good drainage and well manured. For early use, plants should be started in the greenhouse and set when danger of hard freezes is over, planting 12 to 18 inches apart in the row, rows two to three feet wide. For green worm one grower says to use an ounce of saltpeter dissolved in twelve quarts of water, sprinkled on with a short handled broom. Others recommend Hammond Slug-Shot. To prevent cabbage fly, use a dust of plaster, air-slaked lime, wood ashes or tobacco dust.

EARLY VARIETIES

ALL SEASON—Matures for us about July 20th to 30th. The heads fairly large, uniform and dependable variety. Recommended for use either early or late. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.60.

EARLY DWARF FLAT DUTCH—Matures about July 25th. An excellent, large heading, smooth variety. Quite similar to Early Summer. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.25.

COPENHAGEN MARKET—Matures about July 1st. This variety appears to stand in a class by itself. It is the very earliest sort in our trial grounds and also one of the very best. Uniform, with splendid sized heads; round and with only moderate amount of loose or outside leaves. We believe this to be the very best early cabbage on the market today and we know our stock to be of the very best. Pkt., 10c; ½ Oz., 25c; Oz., 40c; ¼ Lb., \$1.40; Lb., \$3.75.

EARLY JERSEY WAKEFIELD—Matures about July 10th. Conical, very solid, rather small, uniform. This variety has been standard for many years and is one of the best of the very early sorts. Our stock comes true and dependable. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.50.

EARLY WINNINGSTADT—Matures July 25th. Conical, fairly solid, decidedly uniform. Well recommended for making kraut. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.85.

EXTRA EARLY EXPRESS—Matures about July 5th. Good sized, conical, uniform. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.75.

EARLY SPRING—Matures about July 5th. A rather small, flat, uniform, solid variety, occupying only a moderate amount of room. Uniform and good quality. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 65c; Lb., \$2.25.

EARLY SUMMER—Matures July 20th. Heads large, uniform and solid. Flat and reasonably heavy. A dependable sort for second early or summer use. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.25.

EUREKA FIRST EARLY—Matures about July 5th. Rather small, flat, solid, uniform. An excellent first early variety. Pkt., 5c; ½ Oz., 15c; Oz., 30c; ¼ Lb., 85c; Lb., \$2.60.

ALL HEAD—Matures July 20th to 30th. Reasonably uniform. Flat, solid, with short stem and moderate amount of outside leaves; quite similar to All Seasons and Early Summer. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.60.

BRUNSWICK—Matures about August 1st. A large summer sort; uniform, reasonably heavy and dependable. Similar type to Early Flat Dutch or Early Summer, but probably a little larger. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.00.

CHARLESTON OR LARGE WAKEFIELD—Matures about July 10th to 15th. A standard variety. Rather large size with conical heads; a dependable sort. Our seed is selected with great care and can be depended upon. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 60c; Lb., \$1.75.



Copenhagen Market.

LATE VARIETIES

DANISH BALL HEAD (Short Stemmed)—This is exactly like the Danish Ball Head Winter except that a shorter stem has been developed for it, which is desirable with many growers. It is fully equal to the tall-stemmed strain. Our seed is of the highest breeding, Denmark grown. Pkt., 5c; ½ Oz., 10c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.25.

IMPROVED AMERICAN SAVOY—We consider this the best variety of Savoy which we have found; heads large and solid, stalks short, very uniform; a sure header; does not burst badly; leaves uniformly crumpled. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.60.

PREMIUM FLAT DUTCH—A large heading, late variety, solid, uniform and of excellent quality, an excellent keeper; one of the standard varieties. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.10.

AUTUMN KING OR WORLD BEATER—A very large fall variety. Excellent for kraut or fall use. A very heavy cropper. Has small outside leaves. Not a good winter keeper. Pkt., 5c; ½ Oz., 10c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.00.



Danish Ball Head.

VOLGA—A variety which is recommended for sowing, either early or late. In our trial grounds it shows excellent uniformity. Rather quick maturity, a good type, excellent for marketing or for home use. The heads are moderately large when planted early. It is a larger cabbage than many of the very early sorts and must be given more room. Pkt., 5c; ½ Oz., 20c; Oz., 30c; ¼ Lb., 75c; Lb., \$2.50.

DANISH BALL HEAD WINTER (Tall Stemmed)—It would be difficult to praise this variety too highly. Its merits are so well known that it is becoming standard the country over. The heads are extremely hard, heavy, not too large, but weigh one-fourth more than other varieties of equal size; leaves fine grained and tender, a splendid keeper. Our strain is Danish grown, selected with greatest care and equal to any. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 60c; Lb., \$2.00.

SAVOY EARLY ULM—One of the earliest and sweetest Savoy with small, round, solid heads. The leaves are more crumpled than the Improved American. The quality is excellent. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.85.

LARGE LATE DRUMHEAD—A very large, deep-headed variety with few outer leaves, stem medium length, sure heading, solid, good quality either for slicing or general purpose. Pkt., 5c; ½ Oz., 10c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.75.



Volga.

MAMMOTH ROCK RED—The largest and surest heading, red cabbage. Stem medium length, head large, round, very solid, deep red color. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.60.

GLORY OF ENKHUIZEN—Matures about July 5th to 10th. In our trial grounds no other cabbage maturing at the time that this does, quite equals it. The heads are splendidly uniform, round, very attractive in appearance and the heaviest variety which we have at that time. Splendid either to market or for home use. Our stock of this great variety simply can't be beat. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 70c; Lb., \$2.60.

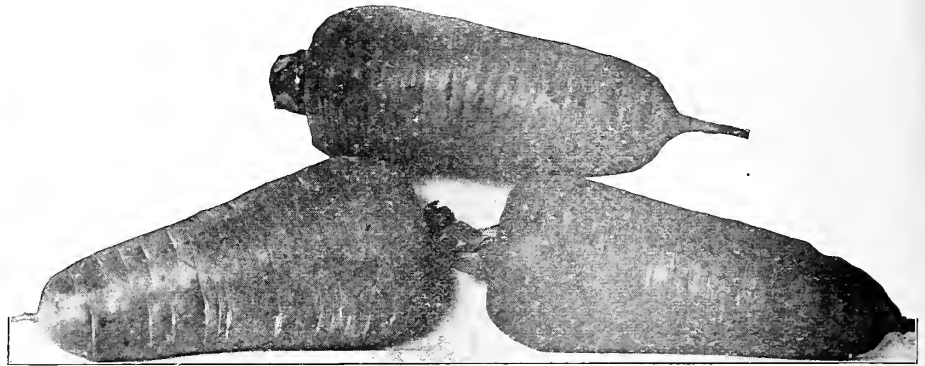
SUCCESSION—Matures about August 5th. Quite large, flat and uniform. One of the largest of the early summer varieties. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 70c; Lb., \$2.60.

SUREHEAD—Matures about July 25th. A very dependable sort; uniform, solid, every plant heading. We consider this one of the best of the flat Dutch type summer cabbages and our stock is as good as any. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.60.

CHINESE CABBAGE (New)—This variety looks more like Cos Lettuce than cabbage; is either used as a salad or cooked like Asparagus. Sow about the time you would turnips, after July 1st, and thin to 8 inches apart in the row. Pkt., 10c; ½ Oz., 20c; Oz., 35c; ¼ Lb., \$1.20.



Improved Long Orange.



Chantenay Carrots.

Mohren CARROTS Zanahoria

Our Carrots won first in display at Columbus this year, and we also won first on Chantenay and on Ox Heart.

In good, rich soil, thoroughly worked, will produce satisfactory crops. It is necessary to have a good seed bed in order to secure a perfect stand. Sow in early spring in drills 15 to 18 inches apart, thin the plants to 3 or 4 inches, cover the seed only one-half inch, cultivate frequently and keep the weeds down by hoeing. Carrots are seldom sufficiently appreciated. Properly cooked they are extremely delicate and quite nutritious. They may be used either when an inch in diameter or when full grown.

CHANTENAY—A fairly early, very popular variety, about 5 inches long, 2½ inches diameter. Nearly deep red, fine grained, with excellent flavor. Pkt., 5c; Oz., 10c; ¼ Lb., 35c; Lb., \$1.25.

IMPROVED DANVERS HALF LONG—Six to eight inches long, 2½ inches diameter, smooth, heavy yielding, good quality. Pkt., 5c; Oz., 15c; ¼ Lb., 35c; Lb., \$1.25.

LONG RED OR LONG ORANGE IMPROVED—About 9 inches long, 2 inches in diameter. Smooth, fairly late, extra quality. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.

OX HEART OR GUERANDE—About 3 inches long, 2 inches in diameter. Rather conical shape, quite early. It has excellent quality. Pkt., 5c; Oz., 10c; ¼ Lb., 35c; Lb., \$1.25.

EARLY SCARLET HORN—A very early variety, suitable for either outdoor use or forcing. Roots about 3 inches long and 2 inches in diameter, carrying their length well to the tip, but tapering abruptly at the bottom. Reddish orange color. Excellent quality. Pkt., 5c; Oz., 15c; ¼ Lb., 40c.

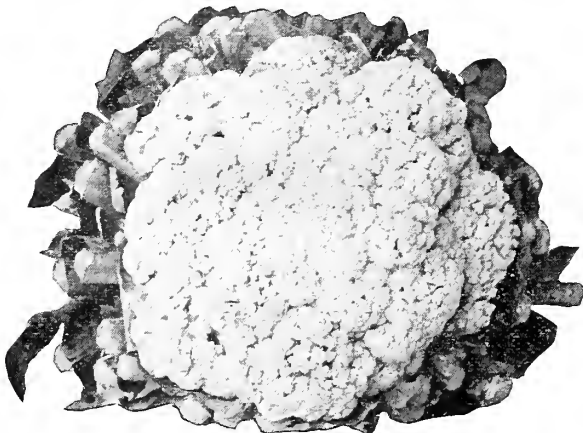
LONG WHITE BELGIAN—Used for stock feeding purposes, grows half out of ground, 15 inches long, sometimes 4 inches in diameter, very productive. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 65c.



Danver's Half Long.

Blumenkohl CAULIFLOWER Coliflor

Use the same culture as for Cabbage, except that they must have fertile soil and plenty of water. The later varieties require the entire season to perfect themselves. One ounce of seed produces 1,500 to 2,000 plants.



Danish Snowball.

EARLY SNOWBALL—The early maturing strain of short leaved Snowball type of Cauliflower; also as reliable and dependable as any variety grown. The heads large, solid and beautifully white. Our stock is grown by an expert in Denmark, selected with great care, and we are sure is unsurpassed by any. Pkt., 10c; ¼ Oz., 45c; Oz., \$1.50; ¼ Lb., \$5.00.

DANISH GIANT—A trifle later than the Danish Snowball, but excellent for resisting dry weather and unfavorable conditions. ½ Pkt., 15c; Pkt., 25c; ¼ Oz., 75c; Oz., \$2.50; ¼ Lb., \$8.50.

LARGE ALGIERS—One of the very best varieties; will stand frost that injures other sorts. The plants large but upright, the leaves protecting the heads admirably. Pkt., 10c; ¼ Oz., 30c; Oz., 75c; ¼ Lb., \$2.00.

EXTRA EARLY DWARF ERFURT—Not quite as early as Danish Snowball. All dwarf habit with short outside leaves. A vigorous grower and sure header. Pkt., 25c; ¼ Oz., 75c; ½ Oz., \$1.40; Oz., \$2.50; ¼ Lb., \$8.50.

Sellerie **CELERY** Apio



White Plume.

SOW INDOORS from February 20th to April 20th, or outdoors in April. Keep the small plants free from weeds. Do not cover the seed too deep; keep the bed moist, almost wet, until the seed germinate. The seed will not germinate in hotbed at a temperature above 60 degrees, and outdoors it sometimes requires partial shading, as with a lattice work of lath, to keep the hot sun from ruining the beds. Such lattice work should admit just about one-half the sunlight. Transplant when about 4 inches high, cutting off tops as well as part of the root. The soil must be rich, and water for irrigation is vitally necessary. Best results may be obtained by setting last of June or first of July, although sometimes the middle of August is not too late. This, of course, depends upon the latitude and local climate. In setting we prepare wide trenches, 6 or 7 inches deep, 4 to 6 feet apart. The plants are set about 6 inches apart and half of the outer leaves cut off, the soil firmly packed about the roots. Water is very necessary until the plants get well started. From then on the weeds must be thoroughly kept down by cultivation and hoeing. Blanching is done either with soil or with two wide boards held in place with stakes or wire hoops at the top. The latter method is necessary when blanching in hot weather for the early market. Do not disturb the plants while they are wet, as this increases tendency to rust.

Celery growers are well aware that the quality of their seed is absolutely necessary. Probably no vegetable seed that we have is more important in this respect; not only must the seed grow, but it must be of the choicest strain. American grown seed of Golden Self-Blanching Celery never gives satisfactory results. The French growers have taken great pains with this variety, and are the most successful in producing it.

EVANS' TRIUMPH—A large growing, late sort, requiring the entire season to mature, but very large and heavy when ready for market. It blanches nearly white, crisp, tender and good flavor. Pkt., 5c; ½ Oz., 10c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.50.

GOLDEN SELF BLANCHING—The most popular variety grown. Although the stalks are large and heavy, they blanch excellently and the flavor is excelled by none. In color it is beautiful golden-yellow. Our seed of this variety is French grown, selected with greatest care, cannot be excelled. Pkt., 15c; ¼ Oz., 40c; ½ Oz., 75c; Oz., \$1.40; ¼ Lb., \$4.50; Lb., \$16.00.

GIANT PASCAL—A very large, late variety, requiring the entire season in which to mature, but an excellent shipper, a good market sort. It blanches to a greenish-white; is an excellent keeper. Pkt., 5c; ½ Oz., 10c; Oz., 15c; ¼ Lb., 45c; Lb., \$1.60.

GIANT WHITE SOLID—A large growing, vigorous variety, which blanches to a yellowish-white and matures a trifle earlier than Giant Pascal. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 80c; Lb., \$2.75.

WHITE PLUME—This is one of the earliest varieties and very largely used. The stalks are medium sized, easily blanched to a clear white. It comes to the market earlier than other varieties and is recommended partly on that account. The quality is excellent. All our Celery is French grown and cannot be excelled. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.10.

WINTER QUEEN—A winter variety that is recommended as one of the very best keepers. It has a large amount of heart, is stout and heavy; blanches to a cream-white. Pkt., 5c; ½ Oz., 10c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.25.

CELERIAC

Sow seed the same as for Celery. Transplant into rows 2 feet apart and thin to 9 inches in the row. Cultivate thoroughly. It is not necessary to earth up.

LARGE SMOOTH PRAGUE—This is the most popular variety with American growers. Roots nearly globular, comparatively smooth, with few roots at the bottom, flavor excellent. This variety excels all others in appearance, size and quality. Pkt., 5c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.50.

CHICORY

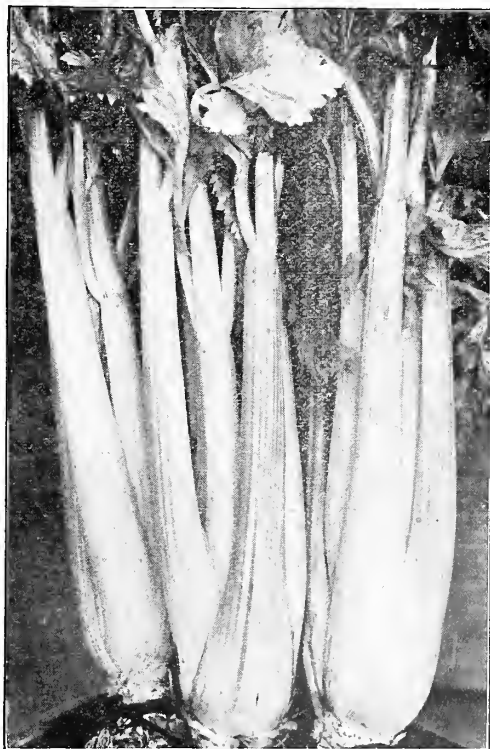
WILOOF OR FRENCH ENDIVE—A variety used as a winter salad, served and eaten like Cos Lettuce. Seed should be sown in open ground in June in drills 12 to 18 inches apart, allowing the plants to stand not closer than 3 inches. The Parsnip-shaped roots are lifted in the fall, the leaves cut off and then stored in soil in a cool place until wanted for forcing. Plant in trench about 16 or 18 inches deep, upright 1½ to 2 inches apart, allowing neck of root to come within 9 inches of the level of the trench. Fill the trench with light soil, or if a quicker growth is desired, use a mulch of fresh manure 2 feet deep. In one month the heads are ready to cut off, with a small portion of the neck of the root attached; or the roots may be planted out in the spring in rows 28 inches apart where they will produce delicate creamy leaves in the garden. Pkt., 10c; Oz., 25c; ¼ Lb., 60c.

LARGE ROOTED OR COFFEE—Used as a substitute for coffee, the root being dried, roasted and ground. Leaves also used as a salad during early spring months. To secure good roots the soil should be light, rich and deeply worked, plants thinned out to stand 4 to 6 inches apart. Sow seed early in the spring. Pkt., 10c; Oz., 25c; ¼ Lb., 60c.

COLLARDS

Sow seed as for Cabbage, in June, July and August for succession. When a month old transplant in rows a foot apart each way and cultivate thoroughly.

GEORGIA—This is the principal Southern variety used for greens; grows vigorously with light green leaves somewhat resembling Cabbage, but growing only in a cluster and not heading. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.

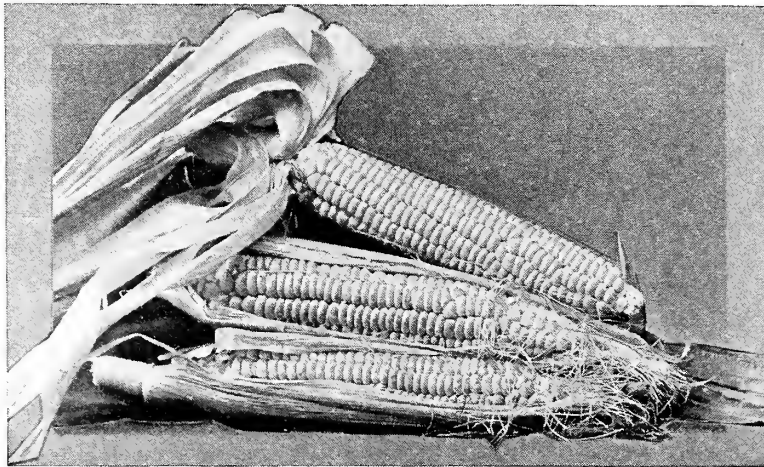


Golden Self Blanching.

Speise Mais

SWEET CORN

Maiz dulce

**Wing's Golden Sugar.**

We Prepay
Postage on Sweet
Corn by the
Packet, Pint or
Quart Anywhere in
the United States;
Larger Amounts
Are Sent at
Purchaser's
Expense.

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Packet, Pint or
Quart Anywhere in
the United States;
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Expense.

Plant either in hills 3 feet apart each way, or in drills about 3 feet apart, and one or two stalks every 10 inches. Break off suckers, cultivate carefully. For a succession we use ourselves, Peep-O-Day, Golden, Bantam, Wing's Golden Sugar and Country Gentleman. These may be planted at the same time and will follow each other nicely.

WING'S GOLDEN SUGAR (New. See back cover page)—

We are decidedly proud to introduce this new variety of Sweet Corn to our customers and proud of being the first to bring it out. It is about a week later than Golden Bantam, fodder about 6 feet tall and ears about one-half larger than Golden Bantam. It is prolific and it possesses all of the sweetness and delicious flavor of the Golden Bantam. Up to this time the Golden Bantam has been acknowledged to be the sweetest and finest flavored Sweet Corn in the world. This one is just as good and has the advantage of being more prolific. Certainly, it will be difficult to overestimate the importance of this variety, and we see no reason why it should not become one of the greatest and most important on market. Pkt., 10c; ½ Pt., 15c; Pt., 25c; Qt., 45c; ½ Pk., \$1.00; Pk., \$1.75; Bu., \$6.00.

KENDEL'S GIANT—Matures August 1st. Fodder 6 feet; ears 6 inches. Rather large in diameter. Grain broad, irregular. No air space. An attractive looking variety to sell and better than the average sort to eat. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 65c; Pk., \$1.10; Bu., \$3.75.

EARLY MAMMOTH—Matures for us August 4th. Ears 9 inches; fodder 7 feet. This variety gives a man lots for his money, the yield being good, the ears large, making an attractive sort to market. It is moderately sweet, better in this respect than Country Gentleman, which matures at about the same time. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 65c; Pk., \$1.10; Bu., \$4.00.

LATE MAMMOTH—Matures for us about August 17th. Fodder about 3 feet, 6 inches; ears about 6 inches. One of the largest eared varieties producing well. The rows are straight, grain medium sized. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 55c; Pk., \$1.00; Bu., \$3.50.

MAMMOTH WHITE CORY—Matures for us July 17th. Fodder about 3 feet, 6 inches; ears about 6 inches. The grain is rather broad; the ear attractive looking; yields well. A good variety for market gardeners. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 65c; Pk., \$1.10; Bu., \$4.00.

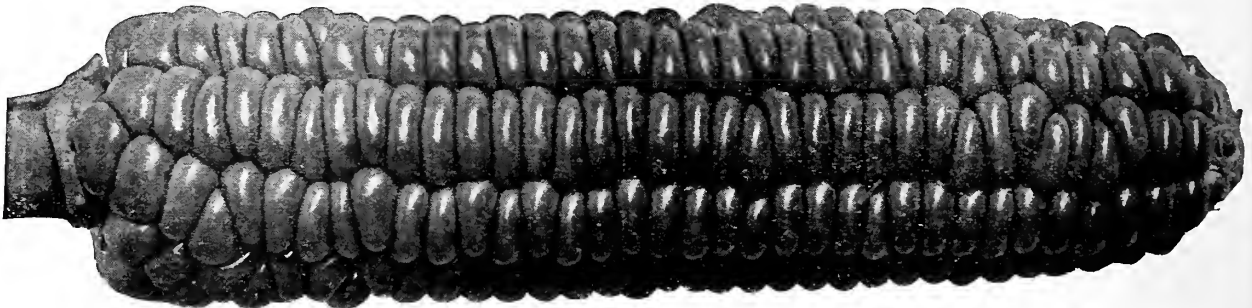
EARLY MINNESOTA—Matures about July 27th. Fodder 6 feet; ears 8 inches long, slender, with little air space; grain rather broad; sweeter and better to eat than most sorts. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 55c; Pk., \$1.10; Bu., \$3.50.

PEEP-O-DAY—Matures July 20th. Fodder 4 to 5 feet; ears 6½ inches. This is one of our favorite, very early varieties. Not quite as sweet as some others, but yields well, is tender and good to eat. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 65c; Pk., \$1.10; Bu., \$4.00.

EARLY EVERGREEN—Matures for us August 1st. Fodder 7 feet; ears 7½ inches; grain rather similar to Stowell's Evergreen, narrow, deep and tender; possibly a little sweeter than Stowell's. An excellent sort to market. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 55c; Pk., \$1.00; Bu., \$3.50.

ADAMS EARLY—Matures August 1st. Fodder 7 feet; ears 8 inches; broad grained; the ears well filled out with no air space. A good market variety. Pkt., 5c; Pt., 10c; Qt., 20c; Pk., 90c; Bu., \$3.00.

GOLDEN BANTAM—Matures for us July 23d. Ears 6 inches; fodder 5 feet. This variety stands in a class by itself, no other variety that we know of, excepting Wing's Golden Sugar, anywhere near equaling it in sweetness and quality. It is good enough to suit the most critical. The ears are only moderate sized, but we consider the variety productive. The grain is rather broad; the ears well filled out without air space. We recommend this variety simply to eat. It is too good to sell. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 65c; Pk., \$1.10; Bu., \$4.00.

**Golden Bantam.**



Kendal's Giant.

BLACK MEXICAN—Matures for us July 27th. Fodder about 7 feet tall; ears about 9 inches long. The ears are slender with a moderate amount of air space. As its name implies, this corn turns black at maturity, but it is ready to eat just before it turns. It is one of the few genuine sweet varieties and very few sorts surpass it in quality. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 75c; Pk., \$1.25; Bu., \$4.50.

COUNTRY GENTLEMAN—Matures for us August 7th. Fodder about 7 feet; ears about 9 inches; the rows of grains irregular. Grain small, narrow, deep and tender, moderately sweet. There is no air space. The yield is heavy and it makes an excellent sort for marketing. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 65c; Pk., \$1.25; Bu., \$3.75.

CROSBY'S EARLY—A second early variety, with ears of moderate length and medium sized fodder. It is extensively used, especially in Maine, as a canning variety. It is attractive looking, both ears and grain well formed. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 65c; Pk., \$1.20; Bu., \$4.50.

CORY—Matures for us July 20th. Ears about 6 inches, fodder about 6 feet. The grain medium width, with a little air space. Attractive looking and markets well. Pkt., 5c; Pt., 15c; Qt., 25c; Pk., \$1.00; Bu., \$3.50.

ADAMS EXTRA EARLY—Matures for us July 27th. Fodder about 6 feet; ears about 7 inches. The ears are rather large; the grain medium width, well filled out, making an attractive looking ear for market. Pkt., 5c; Pt., 10c; Qt., 20c; Pk., 95c; Bu., \$3.25.

PERRY'S HYBRID—Matures August 1st. Fodder 7 feet; ears 7 inches; grain rather narrow, deep, tender, considerably sweeter than the average sorts. We can recommend this variety for home use. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 70c; Pk., \$1.25; Bu., \$4.50.

STOWELL'S EVERGREEN—Matures August 7th. Fodder about 7 feet; ears about 8 inches; grain rather narrow, deep, tender, the ears having little air space; moderately sweet. This is the standard main crop variety the country over. Very prolific, a splendid sort to market, and while not as sweet as two or three other varieties, for its purpose it is hard to beat. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 55c; Pk., \$1.00; Bu., \$4.00.

WHITE EVERGREEN—Matures about August 7th. Fodder 7 feet; ears 9 inches; rows irregular; medium sized grain, with some air space. A typical evergreen corn, making a good yield and recommended as a good canning sort. Pkt., 5c; Pt., 15c; Qt., 25c; ½ Pk., 55c; Pk., \$1.00; Bu., \$3.75.

POP CORN

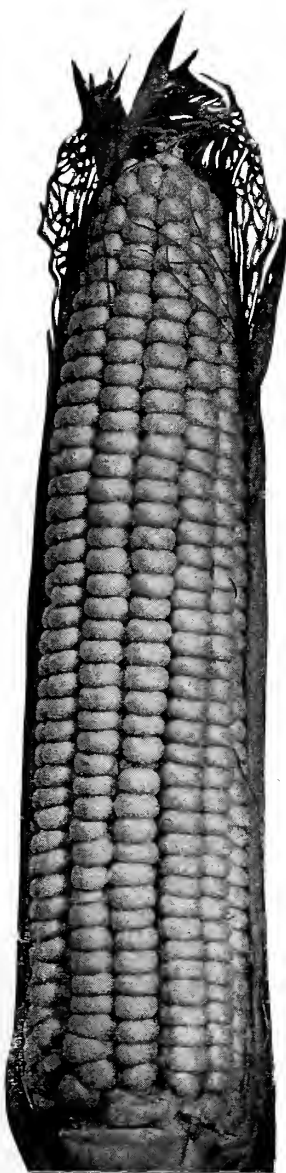
WHITE RICE—A standard variety with small short ears, very prolific and pops excellently. Pkt., 5c; Lb., 15c. Express not paid, 5 Lbs., 40c; 10 Lbs., 65c; 25 Lbs., \$1.40.

QUEEN'S GOLDEN—Differs from White Rice in being smoother, the grain yellow, but pops perfectly white, and a single kernel frequently expands to one inch in diameter. Pkt., 5c; ¼ Lb., 10c; Lb., 15c; 3 Lbs., 40c. Express not paid, 10 Lbs., 75c; 25 Lbs., \$1.50.

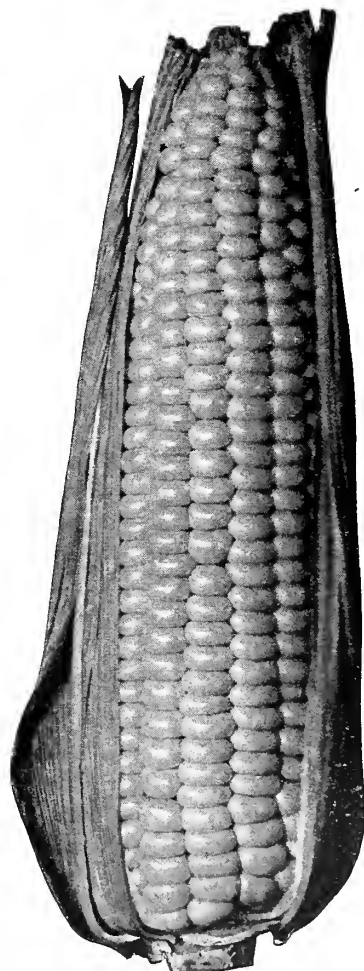
CORN SALAD

This plant does not thrive during warm weather and seeds should be sown thinly in drills during August, September and October. Fresh leaves will then be ready during the fall and winter months; should be protected by a light mulch of hay or straw applied after cool weather sets in. One ounce plants 30 feet of row.

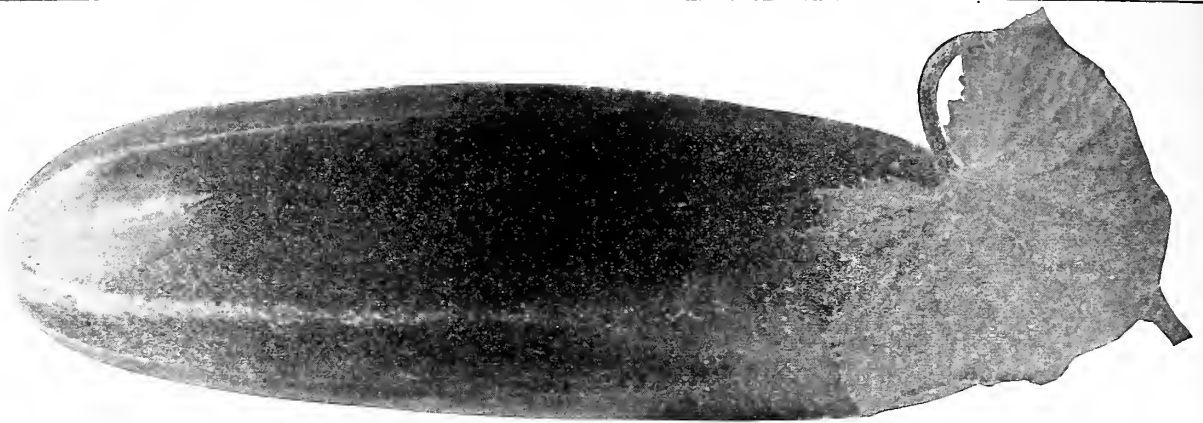
LARGE SEEDED—Used as a salad. A small, quick-growing plant for fall, winter or spring use. May be sown either in spring or fall. If sown in fall, cover before severe cold weather with straw or coarse litter. They do well on rich ground. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.



Early Evergreen.



Peep-O-Day.



Fordhook Famous.

Gurkin CUCUMBER Cohombro

Plant when the ground is warm, in hills 3 feet apart for the smaller varieties, 4 feet for the large ones. They need comparatively rich soil that is well worked. To protect from bugs we use ashes or tobacco dust mixed with turpentine, sprinkled on the ground about as soon as the plants appear.

CUMBERLAND—A hardy variety of white spine type, producing very freely, the color gray-green. It is thickly covered with small, fine spines, except on the extreme stem end, and the surface is roughened in the manner desired for pickling. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 90c.

COOL AND CRISP—Unusually attractive, white spine variety, very early, long, slender, rather pointed, and cuts above average. Good either for pickling or slicing. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., 90c.

DAVIS' PERFECT—A splendid, new variety, adapted either to greenhouse or outdoor use. When grown outdoors, frequently good enough to sell as hothouse fruit. Popular with market gardeners on account of its splendid quality and because it frequently sells above market price. It is long, slender, smooth, with excellent color, and cuts above average. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.10.

EXTRA EARLY WHITE SPINE—An unusually attractive and very popular variety. Excellent for forcing and a heavy yielder, commanding the highest market price. It is productive, of good size, very smooth and cuts unusually well. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.10.

ARLINGTON WHITE SPINE—A very attractive and popular sort in the South. Medium sized, early, a heavy yielder and cuts well. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., \$1.00.

IMPROVED LONG GREEN—A standard sort, adapted especially to long pickles, for which purpose it is excellent. The bulk of the crop of this variety matures rather late. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

JAPANESE CLIMBING—The vines are unusually strong and throw out tendrils, making it suitable for training on trellises. Fruit is long and well formed, suitable either for pickles or slicing. Pkt., 5c; ½ Oz., 10c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.25.

WEST INDIA GHERKIN—A small oval variety, suitable for pickles only. It produces heavily; surface is decidedly rough; length about 2 to 3 inches. Pkt., 5c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.50.

KLONDIKE—A good strain of white spine, very popular in the South for shipping North; very dark green, smooth, retains its color well. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

NICHOL'S MEDIUM GREEN—A standard, old variety, suitable either for pickles or slicing. Good quality and a good yielder. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

WESTERFIELD CHICAGO PICKLE—A decidedly popular pickling variety that frequently commands more than market price. It is universally used by the great pickle manufacturers. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.00.

EVERBEARING—An early and very prolific variety, suitable for pickles. Fruit small, of good quality, and if kept gathered, very prolific. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.00.

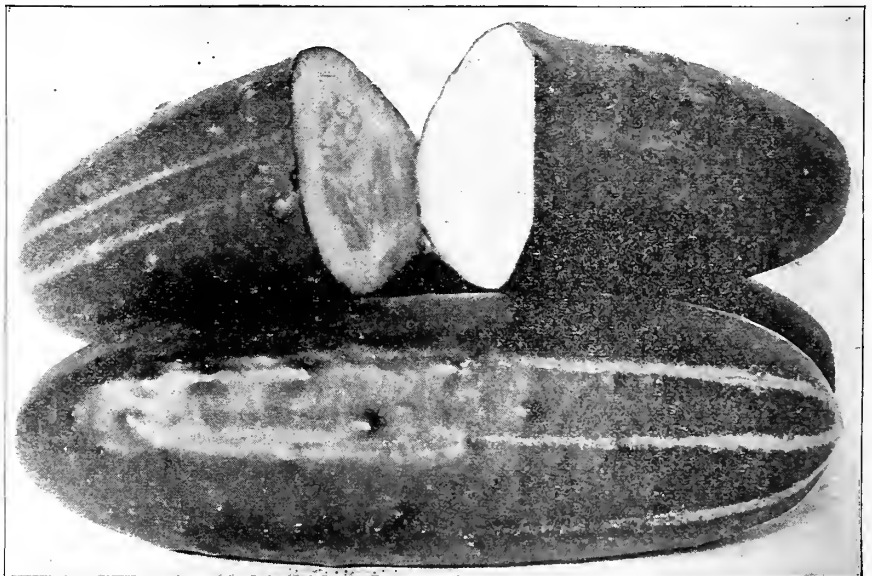
EARLY CLUSTER—A small, short variety, producing heavily and of good quality for pickles. If fruit is kept gathered, vines yield for a long time. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., 90c.

EARLY RUSSIAN—One of the earliest varieties; fruit about 3 inches long and very satisfactory for pickles, if kept gathered when young. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

LIVINGSTON'S EVERGREEN PICKLING—A hardy, prolific variety, excellently adapted to pickling and also satisfactory for slicing; a good producer. Pkt., 5c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.25.

EARLY SHORT GREEN—An excellent variety for pickles, very early, producing well; is also adapted to slicing. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 90c.

FORDHOOK FAMOUS—An unusually attractive looking variety, very long, slender, dark green, somewhat pointed and smooth. It yields well and cuts unusually well. Pkt., 5c; Oz., 15c; ¼ Lb., 35c; Lb., \$1.10.



Cool and Crisp.

CRESS

SOW AS EARLY in spring as the ground can be worked, in good soil. Make shallow drills 16 inches apart to cover seed one-half inch, pressing the soil down firmly. Thin to 4 or 5 inches apart in the row. For succession plant every two weeks. Use as salad before the flowers appear.

Watercress may either be started in pans or boxes of very moist earth and then transplanted to the bank of stream or pond where you wish them to grow, or the seed may be lightly covered with soil along the borders of streams. It can be grown in tubs of good soil in a shady place, if plenty of water is given.

BROAD-LEAVED WINTER OR UPLAND—A hardy perennial which stays green nearly the entire year; will do for use very early in the spring; eaten like Lettuce or boiled like Spinach. Pkt., 5c; Oz., 15c; ¼ Lb., 25c.

CURLED OR PEPPER GRASS—An excellent flavored variety which may be cut two or three times. Pkt., 5c; Oz., 10c; ¼ Lb., 20c.

TRUE WATERCRESS—The well-known perennial, aquatic plant, very prolific and easily grown, with a mild pungent flavor, relished by nearly every one. Pkt., 10c; ½ Oz., 20c; Oz., 30c; ¼ Lb., \$1.25.

Eierpflanze EGG PLANT Berengena

Sow in hotbeds early in spring, transplant when weather is warm and perfectly settled; set plants about 3 ft.x2 ft. When cutting the fruit be careful not to destroy the roots of the plants. One ounce of seed produces 1,000 plants.

LONG PURPLE—A very early maturing, productive variety. Rich purple color with long fruit and excellent quality. Pkt., 10c; ½ Oz., 20c; Oz., 35c; ¼ Lb., \$1.00; Lb., \$2.50.

NEW YORK IMPROVED LARGE PURPLE—A standard variety with large fruit, oval shaped and smooth, deep purple, early, productive and of good quality. Pkt., 10c; ½ Oz., 15c; Oz., 30c; ¼ Lb., 90c.

BLACK BEAUTY—Entirely spineless variety, ten days earlier than New York, attractive in form, broad and thick, purple color, a desirable variety for northern gardens. Pkt., 10c; ½ Oz., 15c; Oz., 30c; ¼ Lb., 90c; Lb., \$3.50.



New York Improved Purple.

BLACK PEKIN—An early variety with nearly round fruit, black, glossy and solid, flesh white. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 85c; Lb., \$2.50.

DANDELION

Sow early in spring or up to June in good, warm soil, one-half inch deep, 18 inches apart, and cultivate well. They are ready to cut the following spring. They may be blanched by placing a couple of boards over the rows V-shaped, excluding the light and rendering them far superior to the wild varieties.

CULTIVATED OR FRENCH COMMON—A decided improvement on the wild dandelion, being almost double its size, very early and vigorous. Pkt., 10c; ½ Oz., 25c; Oz., 40c; ¼ Lb., \$1.25; Lb., \$4.50.

Endivien ENDIVE Endivia

This forms one of the very best fall and winter salads. It is easily blanched, crisp, delicate and fine flavored. Sow in June, July or August, in drills 15 to 24 inches apart, thin plants to one inch apart. When full grown or when hard frosts are appearing, we blanch by means of boards on each side of the plant, the boards held in place with stakes. Do not shut out all the light or the plants will rot.

BROAD-LEAVED BATAVIAN—This is the broadest leaved variety we sell, the leaves about the same size and shape as a large dandelion leaf. It makes a sort of head in center and is very easily blanched. One of the very best in quality. Pkt., 5c; Oz., 10c; ¼ Lb., 35c; Lb., \$1.10.



Green Curled Winter.

GREEN CURLED WINTER—A standard variety for fall and early winter use, forming a dense mass of deeply divided leaves which blanch in the center quite easily to a cream-white. Pkt., 5c; Oz., 10c; ¼ Lb., 35c; Lb., \$1.10.

EVER WHITE CURLED—Differs from the Green Curled Winter in having gray green leaves throughout. In growth, habit and appearance after blanching, the two varieties are same. Pkt., 5c; Oz., 10c; ¼ Lb., 35c; Lb., \$1.25.

LARGE CURLED PANCALIER—Earlier and more erect than Green Curled. Large, fine, curled leaves, growing so thickly in the center as to almost blanch themselves. Pkt., 5c; Oz., 10c; ¼ Lb., 35c.

GOURDS

Culture is the same as for Squash. Rapid growing climbers, making good trellis covers, and the fruit being interesting and ornamental.

DIPPER—Used for dippers, grows about 12 inches long, will last for years, holds one to four pints. Pkt., 5c; Oz., 20c.

JAPANESE NEST EGG—The size of a hen's egg; used for darning. Pkt., 5c; ½ Oz., 15c; Oz., 25c.

SUGAR TROUGH—Has hard, thick shell, light, durable and strong; holds about six or eight gallons. Pkt., 5c; Oz., 15c.

ORNAMENTAL GOURDS

A choice mixture of Gourds, including all the ornamental kinds, many of them very curious and unique. Pkt., 5c.



Kohl Rabi.

Kohl Rabi **KOHL RABI** Col rabano

FOR SUMMER use plant about as soon as the ground can be worked in the spring. For winter use, from middle of June to last of July. Cultivate as you would Cabbage and cook as you would Turnips, which they greatly resemble in flavor, although we think they are more delicately flavored. The large varieties make good stock feed.

EARLY WHITE VIENNA—Short-leaved, early, of much better flavor than the Large White, the leaves not over half the size. The roots are best used when only two or two and one-half inches in diameter. Pkt., 5c; Oz., 20c; $\frac{1}{4}$ Lb., 50c; Lb., \$2.10.

EARLY PURPLE VIENNA—Very similar to Early White Vienna, but the leaves are somewhat larger; quality about the same. Pkt., 5c; Oz., 20c; $\frac{1}{4}$ Lb., 60c; Lb., \$2.10.

KALE, or BORECOLE

These plants do not form heads, but furnish an abundance of attractive leaves that are principally used for greens; also for garnishing. Seed may be sown from April to October. The young shoots which come up in the spring from the old stumps make excellent greens. One ounce of seed sows about 200 feet.

TALL GREEN SCOTCH CURLED—Similar to the Dwarf in every way, excepting larger. Grows 3 feet tall; productive, ornamental, hardy, excellent for market. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.00.

SIBERIAN—Not so curly as Dwarf Green Kale. May be sown in September for spring greens. Very vigorous and hardy. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 20c; Lb., 60c.

DWARF GREEN SCOTCH CURLED—Hardier than Cabbage; leaves divided and curled about like Parsley. A heavy yielder; extensively grown, especially in the South, for shipment. They make excellent greens. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., \$1.00.

Porree oder Lauch **LEEK** Puerro

Sow on good onion soil very early in the spring in drills 6 inches apart, 1 inch deep, thin out to 1 inch and transplant, or else thin to 6 inches. Draw the earth about them when cultivating. They are used in soups or boiled.

BROAD SCOTCH OR LONDON FLAG—A hardy variety with large, broad leaves, strong, vigorous plant. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.40.

LARGE CARENTAN—Standard market variety, sometimes growing 3 inches in diameter; exceptionally hardy, of mild flavor. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.25.

Salat **LETTUCE** Lechuga

Lettuce does better on good soil, moderately moist. The heading varieties should be thinned to 8 inches apart in the row. When heads are not wanted, it is well to grow in a mass, plants being 2 inches apart. Seed may be sown as early as the ground can be worked or a succession may be made by repeated plantings. One ounce produces 3,000 plants. For winter use, sow under glass from November to February and thin out as necessary. Keep in a moderate temperature and give as much light and air as possible. From seeding time to maturity is between forty and fifty days.



May King Head Lettuce.

**Black Seeded Tennis Ball.**

HEADING VARIETIES

The popular belief that Head Lettuce is difficult to grow is entirely wrong. All that is necessary is proper varieties and thinning the plants to eight inches in the row.

MAY KING—This variety is surely good enough to satisfy the most exacting. It does well under glass as well as outdoors. Practically every plant forms a beautiful compact head, which bleaches out to cream color, and is very finely flavored. It matures early, and lasts about two weeks. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.50.

BLACK SEEDED TENNIS BALL—A variety very similar to the May King, and by our tests practically as valuable. It is a few days earlier, and with us lasted a few days longer than May King, but the latter had a trifle larger proportion of fine heads. The leaf edges are plain, the head bleaches to a beautiful cream color. This variety is also well recommended for forcing. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

LOOSE HEAD VARIETIES

BIG BOSTON—A variety very successfully grown in the South for shipment north in the winter. It heads up in cool weather better than any other variety, and grown for this purpose is excellent for market garden trade. In our tests this was one of the last varieties to reach maturity. It stood heat and drought well, and finally made a large, attractive, loose head, moderately crisp, with quite a large percentage of green leaves not bleached. Edges of leaves rather plain. With us it stayed in its prime for ten days. Our stock is an extra select strain of this variety. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 35c; Lb., \$1.25.

CALIFORNIA CREAM BUTTER—A variety similar to Big Boston, and used for like purpose, shipping north in cool weather, for which it is excellent. It is a dark green color, slow about coming to prime, but in our grounds stayed good for ten or twelve days. Edges are plain, leaves darker green than Big Boston. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

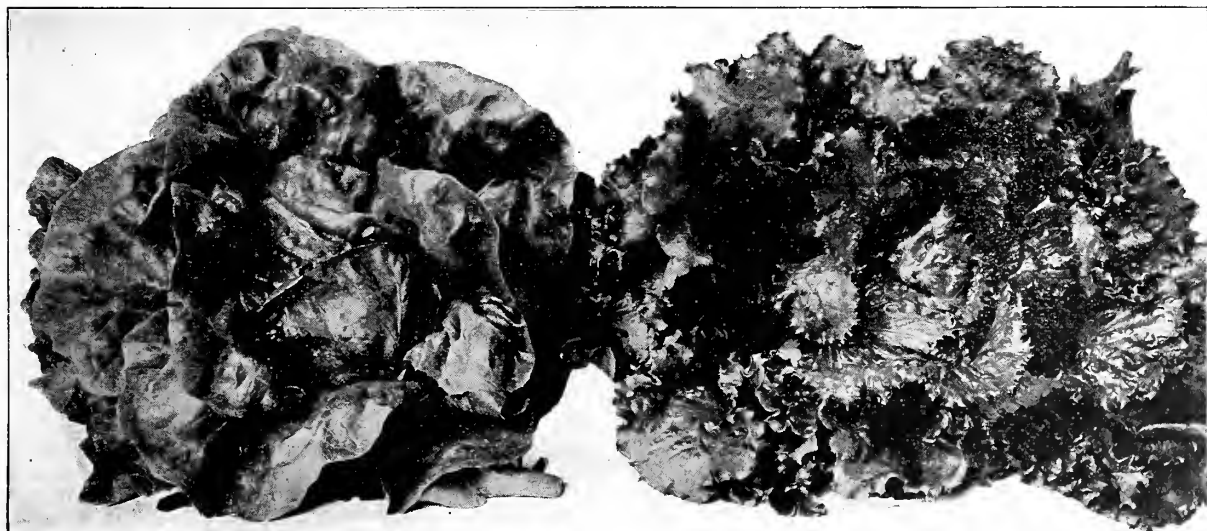
DEACON—One of the so-called "butter" varieties, highly recommended on account of their flavor. Rather late in reaching maturity, a summer variety. In our trial grounds, it did not stand heat and drought quite so well as some other varieties. Edges of leaves are plain, color dark green. With us it stayed in its prime about ten days. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

MAMMOTH BLACK SEEDED BUTTER—It is, liked by market gardeners on account of its standing frost in spring, enabling them to plant very early. We found it very similar to California Cream Butter or Hubbard Market. It is early in maturing, and with us did not stand heat and drought as well as some other varieties. Edges of the leaves smooth, color dark green. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

HUBBARD MARKET—A plain dark green leaved, summer variety, late about reaching maturity; with us stayed in its prime about ten days. With us it did not stand the heat and drought well, but under more favorable conditions it makes an excellent variety. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 30c.

TENNIS BALL WHITE SEEDED OR BOSTON MARKET—A forcing variety similar in appearance to Black Seeded Tennis Ball. In our trial grounds outdoors it did not stand heat and drought at all well. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

MAXIMUM OR IMMENSITY—A variety similar to Hubbard Market, but stood heat and dry weather somewhat better. One of the very largest varieties we know of. The edges of the leaves are plain, and color dark green. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.00.

**Deacon,****Prizehead.**

LOOSE LEAF VARIETIES

HANSON IMPROVED—

A variety used more for outdoor work than for greenhouse, but when grown outdoors it compares very favorably with Grand Rapids, is similar to it in appearance, and from our trial ground experience we would as soon have one as the other for outdoor use. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

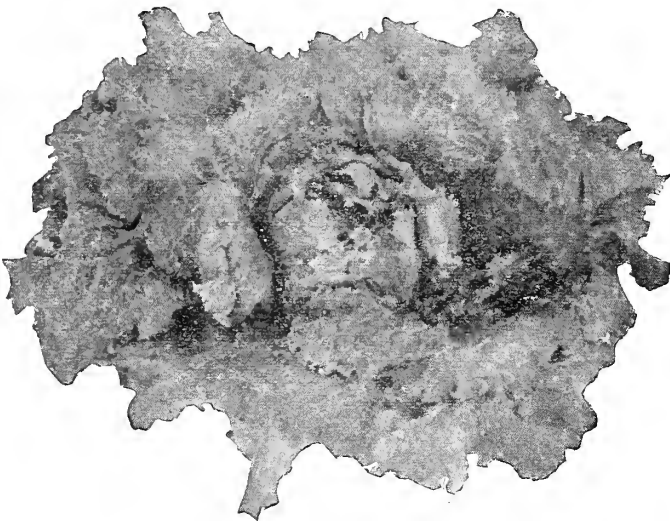


Hanson Improved.

ICEBERG—An outdoor

variety, early in maturing, somewhat similar in appearance to Grand Rapids. The leaves are frilled, although not so much so as Grand Rapids. It has quite a large percentage of crisp white leaves. With us it stayed in its prime nearly three weeks. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.00.

PRIZE HEAD—A large, loose leaf variety, beautifully tinged with brownish-red. The edges are decidedly frilled, and the entire plant very attractive. The center contains a large proportion of white leaf. It is one of the earliest varieties to reach its prime, and with us lasted at least two weeks. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 85c.



Simpson Early Curled.

DENVER MARKET—One of the most attractive and best varieties in the loose head class. Early, very attractive, light green in color, the inner leaves bleached and crisp. Edges of the leaves somewhat frilled. In our trial grounds it kept much longer than most other sorts of Lettuce. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c.

GRAND RAPIDS—This is the great greenhouse or hot-bed variety. The leaves are beautifully frilled, decidedly crisp and tender, with a large percentage of bleached surface. It is not liable to rot in the greenhouse, and in our trial grounds remained in its prime between two and three weeks. It is splendidly adapted to growth outdoors as well as in the greenhouse. Our stock is grown by an expert, and great care taken with it. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.25.

NEW YORK OR WONDERFUL—A favorite with market gardeners around New York City. The outside leaves very dark green with rather fancy edges, the heads somewhat conical, loose and large. It is rather early, and in our trial grounds lasted about ten days. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.00.

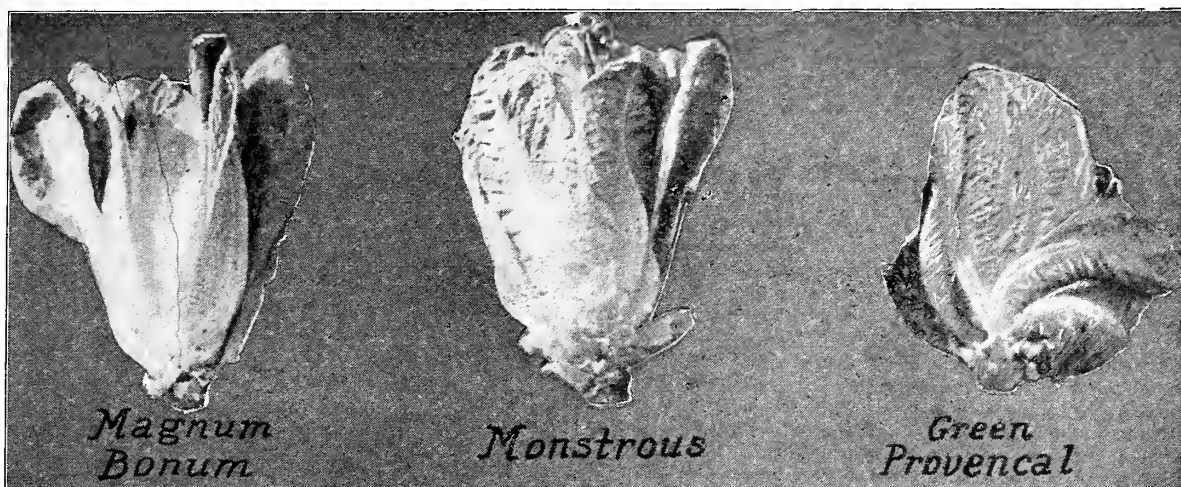
SIMPSON BLACK SEEDED—An all round good variety, under glass, in cold frame, or outdoors. Early, crisp and tender; very similar to Simpson Early. Curled. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 35c; Lb., \$1.25.

SIMPSON EARLY CURLED—An open leaf variety, yellowish-green in color, early, well adapted to family use, as it may be planted thickly and the whole plant eaten when quite young. The entire plant is crisp, decidedly early, and may be used for a long time. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 25c; Lb., 85c.

COS LETTUCE

COS LETTUCE SHOULD be grown about the same as any other Head Lettuce, except that, especially with the Monstrous and Green Provencal varieties, a little more space is needed than with the ordinary Head Lettuce. We grow the best varieties of common Lettuce for early use and use the Cos entirely for later in the summer when ordinary Lettuce has shot to seed. Handled in this way, you can easily have the choicest of this great salad vegetable from early spring until late July.

This variety is extensively grown in Europe, and is becoming more popular here all the time. For ourselves we simply would not make garden without it, and our friends say it is the finest Lettuce they ever tasted. It is not as early as many of the ordinary varieties, and should not be eaten, as a rule, until well headed, as most varieties are bitter up to that time, but the best varieties form large, oblong, compact heads, perfectly blanched, beautifully crisp and tender. This year we tested out about fifty varieties, secured from Vilmorin and other great European growers. Nearly all of them were good, but the varieties which we have selected were the cream of the lot, and we think will be a positive delight to our customers.



Cos Lettuce.

WHITE PARIS—An old variety, but one of the best. Forms a compact cabbage-like, oblong head, crisp and tender, moderately early. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.10.

EXPRESS—A variety very similar to the Paris White, and by our tests fully equal to it. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.10.

TRIANON, EARLY WHITE (New)—This variety is a trifle whiter yet than the Paris White, and a few days earlier, otherwise there is little difference that we can see. Pkt., 10c; Oz., 25c; ¼ Lb., 45c.

MONSTROUS BROWN (New)—Leaves larger and smooth-

er than Paris White. The heads very large, green tinged with russet. This Lettuce blanches nicely and is of excellent quality. Pkt., 10c; Oz., 25c; ¼ Lb., 45c.

MAGNUM BONUM (New)—A beautifully variety. One of the latest and best. Stands hot weather well and does not shoot to seed quickly. The leaves are smooth, rather narrow, pale gray-green. It blanches beautifully and has splendid flavor. Pkt., 10c; Oz., 25c; ¼ Lb., 45c.

GREEN PROVENCE (New)—A very large, rather late variety; forms beautiful heads, about as large as the Monstrous Brown. The quality is fully equal to Paris White. Pkt., 10c; Oz., 25c; ¼ Lb., 45c.

Zucker Melon

MUSKMELONS

Melon Muscatel

A fertile, moderately loose soil that is not cold should be selected. Plant after all danger of frost is over and the ground warm and dry, in hills four to six feet apart each way. Cultivate until the vines cover the ground. For the striped beetle we use pulverized tobacco and turpentine. You can get ahead of the bugs, obtain earlier melons, and get top prices, by starting them in little pots in frames, transplanting when second or third leaves are formed.

ACME OR BALTIMORE—Medium sized, oval or long oval, slightly pointed and slightly ribbed, closely netted. Flesh thick, green and well flavored; one of the desirable green-fleshed, medium sized melons. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 85c.

BURRELL'S GEM—An orange-fleshed variety, adapted to shipping. Oblong, smoothly round at ends, closely netted, slightly ribbed; fruits about 6 inches long; 4 inches deep; flesh salmon colored; rind thin but tough. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

EXTRA EARLY GREEN CITRON—An early variety, good sized, nearly round, hardy and productive, skin green, becoming yellowish at maturity. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

EMERALD GEM—An early variety, medium sized, nearly round, salmon colored flesh, of excellent flavor. A good variety for home use. Pkt., 5c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.25.

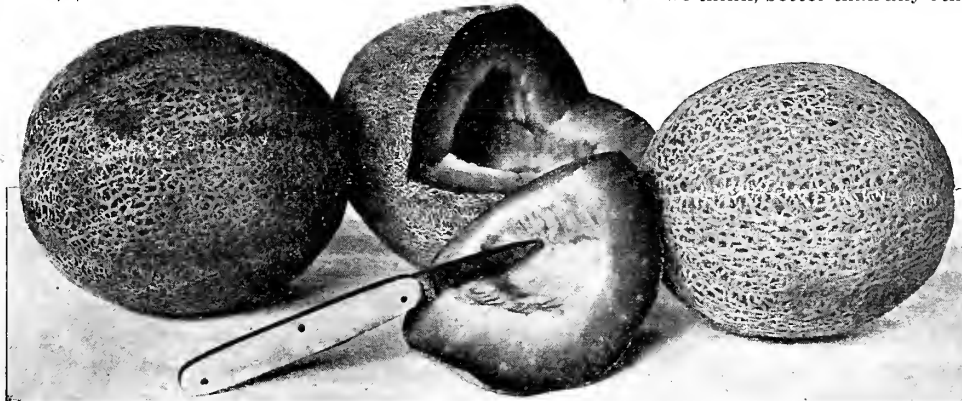
BANANA—Fruit 18 to 21 inches long; Cucumber-shape with delicious aroma. Flesh yellow, blending from bright green to salmon. Pkt., 5c; Oz., 15c; ¼ Lb., 40c.

CHAMPION MARKET—An early variety, similar to the netted gem, but larger, prolific; a good shipper; green fleshed. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

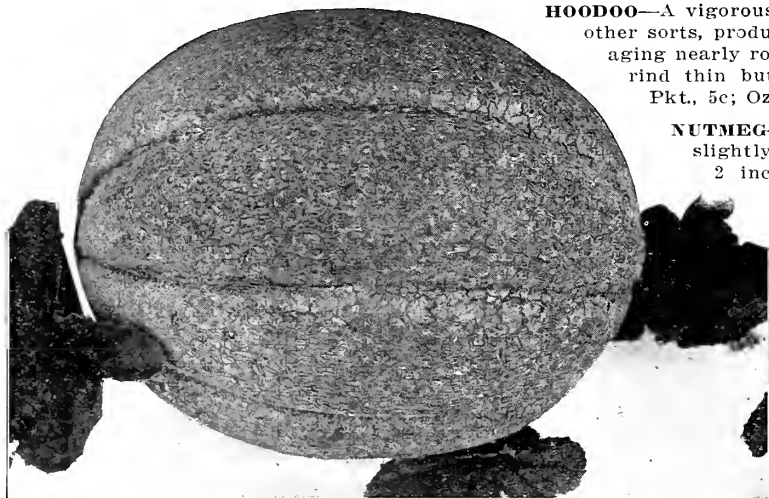
HACKENSACK OR TURK'S CAP—Very large, green fleshed, fruits nearly round or flattened, ribs large, skin heavily netted. Pkt., 5c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.00.

EXTRA EARLY HACKENSACK—Two weeks earlier than the well-known Hackensack. Medium to large size, nearly round or flattened; skin green tinged with yellow at maturity; flesh green and trifle coarse, but of good flavor. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

ROCKYFORD—In our trial grounds this variety suits us, we think, better than any other, the quality being simply ideal. The fruits are oval, slightly ribbed, densely netted; flesh green and very thick. We offer two grades, one of specially selected stock, grown for us by an expert in Rockyford, Colo.; this carefully selected seed coming from the choicest melons only, while the regular stock is saved from an entire field set aside for seed production. Price: **Selected from best melons**, Pkt., 10c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.75. **Regular Stock**, Pkt., 5c; Oz., 10c; ¼ Lb., 35c; Lb., \$1.00.

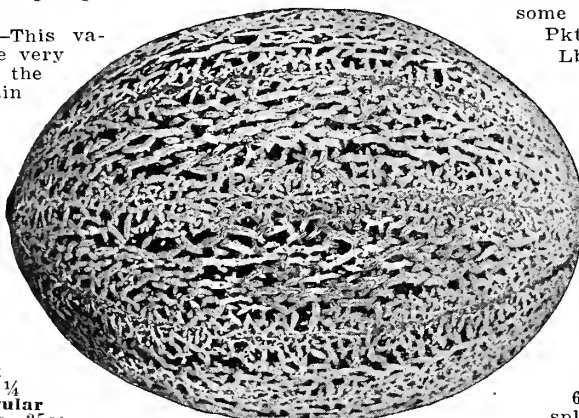


Rockyford.



Tip Top.

GOLD LINED ROCKYFORD—This variety seems to represent the very acme of perfection, being the most highly developed strain of Rockyford. The shape is slightly oval, heavily netted over entire surface; flesh thick, fine grained and sweet. The color is green with a gold margin next to the seed cavity. We offer two grades in this melon as in the Rockyford, our extra select being saved from the best melons only; the regular stock being saved from entire field set aside for seed production. Price: **Selected from Best Melons**, Pkt., 10c; Oz., 20c; ¼ Lb., 50c; Lb., \$1.75. **Regular Stock**, Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.



Burrell's Gem.

HOODOO—A vigorous variety that resists rust better than many other sorts, productive, the fruits varying in shape but averaging nearly round like Netted Gem; netting dense and fine, rind thin but very firm; an excellent shipping variety. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.00.

NUTMEG—Fruit round, about 7 inches in diameter, slightly flattened, ribs large, broad and heavy, flesh 2 inches thick, light green, extensively grown around Montreal. Pkt., 5c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.25.

OSAGE—A salmon-fleshed variety that does well on either heavy soil or on sandy ground. Well netted, dark skin, two or three times as large as Rockyford. Pkt., 5c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.25.

JENNY LIND—A splendid, very early, small variety, unsurpassed in quality, green flesh; a good shipper. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

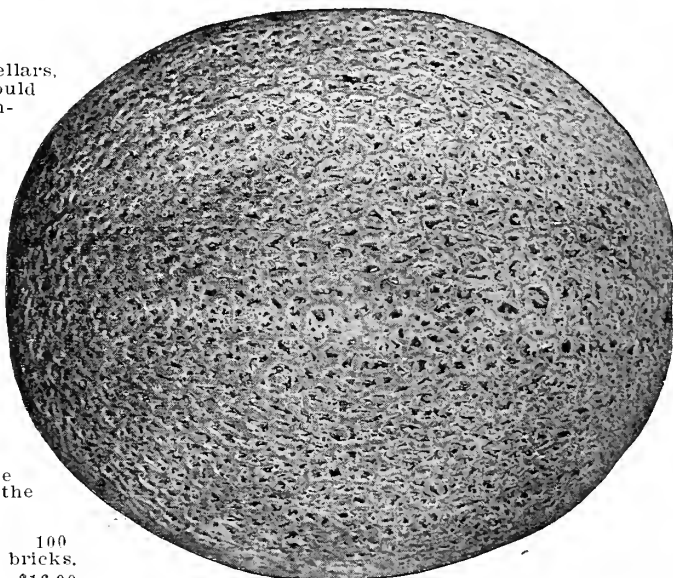
PAUL ROSE—A variety like Netted Gem but larger. Fruits oval, slightly ribbed, densely netted, flesh thick. Orange color. An excellent shipping variety of handsome appearance and good quality. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

LONG ISLAND BEAUTY—A special strain of Hackensack, as early as Hackensack but better quality. Deeply ribbed, heavily netted; flesh clear green. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., \$1.00.

TIP TOP—A yellow fleshed variety of large size and excellent quality. The skin nearly smooth and free from netting, becoming light green when ripening. Fruits 6 to 7 inches in diameter. A splendid market variety. Pkt., 5c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.25.

MUSHROOM SPAWN

Mushrooms may be very easily grown in sheds, cellars, or under greenhouse benches. The temperature should be about 60 degrees. In making the beds the indispensable ingredient is fresh horse manure. It should not contain too much straw or litter and should be mixed with a fourth or fifth part of good garden soil. Make the beds with this mixture, removing all projecting straws. The bed should be made 3 or 4 feet wide and 8 in. deep. Make in layers, pounding each layer down with the back of a spade. When the temperature of the bed has subsided to about 30 degrees, make holes in the bed one foot apart each way and about an inch deep. Place in these holes pieces of the spawn 2 or 3 in. in diameter. Fill up the holes, cover the beds with fresh soil to the depth of 2 in. and place a layer of straw or hay 3 or 4 in. in thickness over all. In about a week or ten days the spawn should have thoroughly permeated the bed. Do not let the bed get too dry. Examine it often and give light waterings sparingly, using water at a temperature of 100 degrees. In from six weeks to two months the bed should begin to bear and should continue bearing for two or three months. In gathering Mushrooms be careful to fill the cavities with the soil which covers the bed.



Gold Lined Rockyford.

	Per brick.	10 bricks.	100 bricks.
American Spawn—In bricks.....	\$0.20	\$1.80	\$16.00
English Spawn—In bricks.....	.15	1.30	12.00



Southern Rattlesnake.

Halbert Honey.

Wassermelone

WATERMELON

Sandia

Best results are secured by planting on decidedly rich soil, making hills about 8 feet apart, the hills being especially fertilized. Do not plant the seed until the ground is warm and dry. Put ten or twelve seeds to a hill and when the plants are well established, thin to two or three of the strongest. In cultivating, be very careful as the vines are sensitive about being moved or stepped upon.

ALABAMA SWEET—A large, long melon, rather dark green, with dark irregular striping, rind thin but very tough, flesh bright red with white seeds. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

COLE'S EARLY—A hardy, early variety, adapted to the North, medium sized, nearly round; the rind green striped with lighter shades. A poor shipper but good for home use. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

CUBAN QUEEN—A large variety, the skin striped in dark and light green; rind thin but tough enough for shipping, becomes very large and a heavy cropper. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

FLORIDA FAVORITE—A large melon, a week earlier than Kolb's Gem. Skin dark green, evenly striped with deeper shade; shape oblong. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

GREY MONARCH—A very large melon, oblong shape, skin mottled grey, flesh crimson and sweet. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

HALBERT HONEY—We find this one of the very sweetest and best varieties of watermelon for home use. Fruit about 18 or 20 inches long, skin dark green, flesh crimson, of excellent quality, with thin rind. Well adapted for selling in nearby markets. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

ICE CREAM OR PEERLESS—One of the very best varieties for home use, but not well adapted to shipping. Oval to long in shape, bright green, finely veined and mottled, medium sized. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

DARK ICING—Fruit medium sized, nearly round, dark green, mottled with lighter shade, flesh bright red, sweet, excellent quality. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

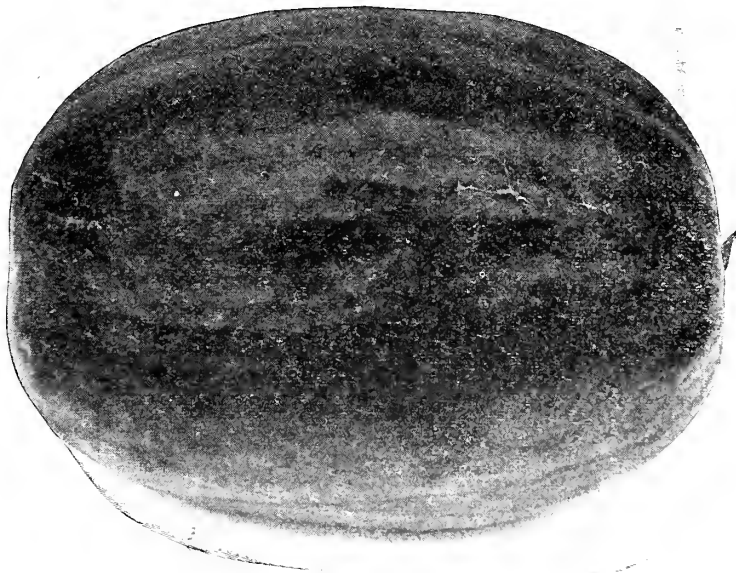
ICEBERG—Similar to Kolb's Gem but larger, extensively grown in the South for shipping north, for which purpose it is well adapted. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

KLECKLEY'S SWEET—One of the very best varieties for home use, not adapted to shipping far. Fruits 18 to 20 inches long, 10 or 12 inches in diameter. In flavor equal to any. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 80c.

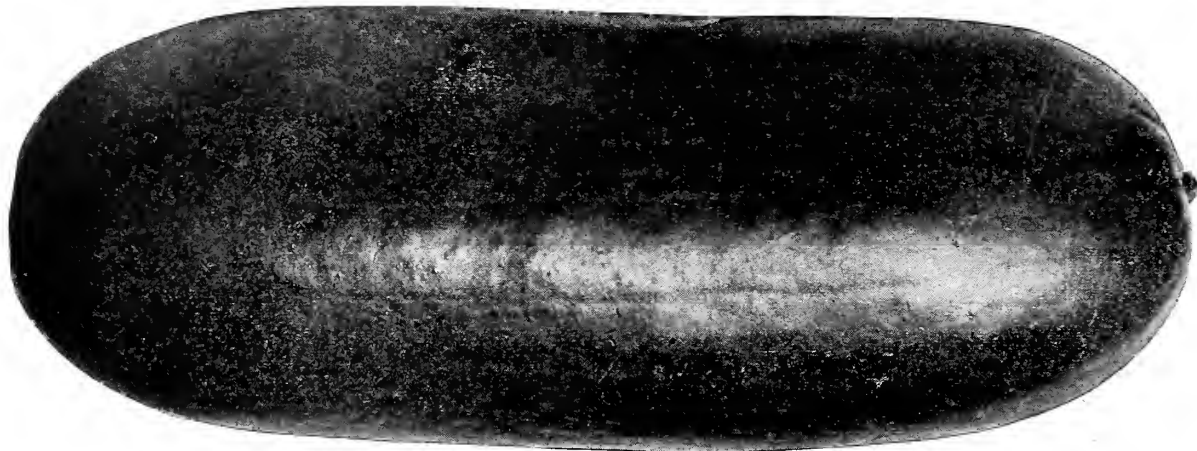
PRESERVING CITRON—RED SEEDED—Medium sized and round, used only for preserves or pickles, hardy and very productive, an excellent variety for this purpose. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.

DIXIE—A large striped variety, oblong, from 20 inches to 2 feet in length, skin dark green with stripes of lighter shade, excellent for shipping or table use. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

EARLY FORDHOOK—A very early variety, ripening nearly with Cole's Early. Good sized, round, medium green in color, flesh bright red, a good shipper. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.



Early Fordhook.



Tom Watson.

KOLBS'S GEM—One of the most improved shipping varieties grown, melons large, oval, blocky form. Skin handsomely marked in stripes of light and dark green. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

GYPSY OR GEORGIA RATTLESNAKE—An old standard variety, very large, long, and distinctly striped. Very popular in the South; stands shipping well. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

TOM WATSON—One of the very finest melons yet produced, excellent either for home use or for shipping. One of the largest melons grown, 18 to 24 inches long, 10 to 12 inches in diameter. Will weigh 50 to 60 pounds. The quality is of the very best and its tough rind and excellent shipping qualities make it one of the most valuable sorts grown. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

PHINNEY—One of the earliest varieties; of good size, productive, oblong, rind mottled in color, excellent quality. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

SWEETHEART—A large, handsome melon, a good shipper. Skin very pale green with distinctly netted lines of slightly darker shade. Fruit remains in condition for use longer than most sorts. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

MOUNTAIN SWEET—An old standard variety, early, excellent for Northern use, rather long and late. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

TRIUMPH—A Southern variety used largely for shipping. One of the largest melons grown. Skin bluish-green, with dark red flesh and good quality. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.



Sweetheart.

OKRA

This vegetable is highly esteemed in the South for soups, stews, etc., the young seed pods being used for that purpose. Plant on good, warm, rich ground after danger of frost is past and the ground is warm, in rows about 2½ feet apart, the plants being one foot apart in the row. The pods are best used when one to three inches long.

PERKIN'S MAMMOTH—Plants about 3 feet tall; pods 4 to 5 inches long; produced in great quantity, handsome appearance; the pods of green color, tender and of good quality, remaining tender for a long time. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c.

WHITE VELVET—Produces larger pods than any other, the pods round and smooth, while other varieties are ridged, corrugated or square. Yields heavily, stays tender until nearly full size. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c.

Senf MUSTARD Mostaza

Sow in the spring as early as possible, in drills about 18 inches apart, covering to a depth of one-half inch. Water freely. It may be sown every few weeks during the summer for succession. In the South it may be sown in the autumn.

BLACK OR BROWN—This variety forms the mustard of commerce. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 40c.

CHINESE BROAD-LEAVED—Leaves very large, twice the size of ordinary white mustard. Very easily prepared for table; flavor sweet and pungent. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 65c.

SOUTHERN GIANT CURLED—Leaves large, much crimped and frilled at edges, plant large, much grown in the South. Leaves are boiled like Spinach. More delicate flavor than Chinese Broad-Leaved. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c.

WHITE LONDON—Grows very rapidly. Leaves comparatively small and smooth, deeply cut, medium dark green color. Leaves when young are mild and tender. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 40c.

Nasturtium NASTURTIIUM Maraneula

Sow as soon as all danger of frost is past, in drills about an inch deep. The tall kinds should have fences or poles upon which to climb. The seeds are used in flavoring pickles or as a substitute for capers.

TALL MIXED—Pkt., 10c; Oz., 15c.

DWARF MIXED—Pkt., 10c; Oz., 15c.

Zwiebel **ONION** Cebolla

We were successful in winning first on display of Onions at the State Fair at Columbus this year.
This was the only prize we showed for.

SOW THE SEED as early in the spring as possible whenever the ground will do to work, even if the weather is cold. This is very important, as the plants must be started before dry weather starts in. Have the soil very thoroughly pulverized and a perfect seed bed. Sow four to five pounds per acre in drills one foot apart and about one-fourth inch deep. Sets require 40 to 80 pounds seed per acre. When the plants are 4 inches high, thin out to stand of 3 or 4 inches apart in the rows. Keep well hoed and free from weeds. The best shaped and colored bulbs are produced where large quantities of well rotted manure are used. If this is not available, large amounts of high grade commercial fertilizer is required. Wood ashes are beneficial and make the Onions keep better.

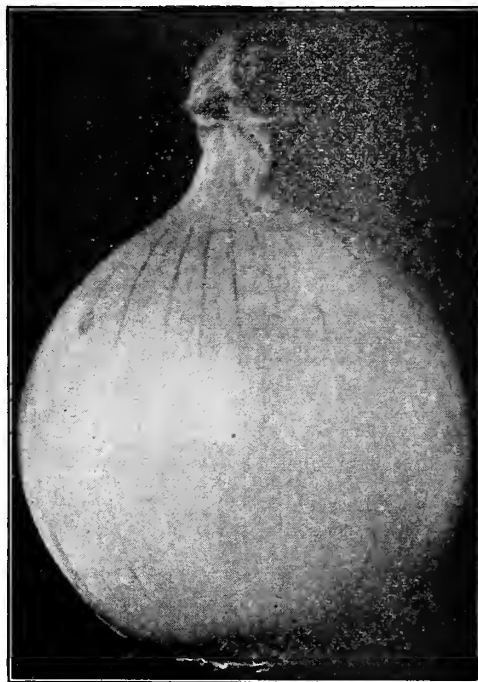
EXTRA EARLY RED—A medium sized, uniform, shaped Onion, earlier than Large Red Wethersfield, yields well and a good keeper. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.35.

YELLOW DUTCH OR STRASBURG—An excellent variety for sets, quite early, medium sized, mild, a splendid keeper. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 35c; Lb., \$1.10.

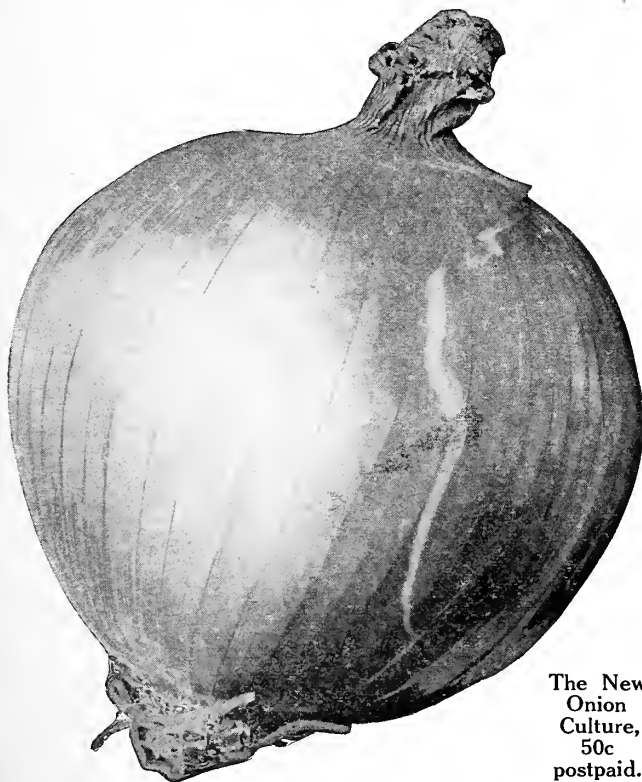
OHIO YELLOW GLOBE—A very handsome variety and one of the best yielders, ripens early and all at once, necks very small, a splendid keeper. We think it impossible to improve on our stock of this variety. Pkt., 5c; Oz., 20c; $\frac{1}{4}$ Lb., 50c; Lb., \$1.70.

AUTRALIAN BROWN—One of the earliest varieties, medium size, solid, one of the very best keepers. It is nearly spherical, slightly flattened, reddish-brown in color, rather strong flavored. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.25.

LARGE RED WETHERSFIELD—A very popular standard variety, one of the best for yields as well as for keeping, well flattened but thick through, large and heavy, the skin purplish-red, smooth and glossy. It is excellent to grow for late winter markets, does well on poor soils and in the South, is not well adapted to muck land. We think that our stock cannot be excelled. Pkt., 5c; Oz., 20c; $\frac{1}{4}$ Lb., 50c; Lb., \$1.50.



Southport White Globe.



The New
Onion
Culture,
50c
postpaid.

Prizetaker.

SOUTHPORT LARGE RED GLOBE—Usually called the handsomest of the Red Onions. Measures $2\frac{1}{2}$ to 3 inches in diameter, uniform and extra dark color, with thin necks, a splendid market variety and a good keeper. Eastern grown seed, Pkt., 10c; Oz., 30c; $\frac{1}{4}$ Lb., 50c; Lb., \$1.70. Western grown seed, Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 45c; Lb., \$1.50.

PRIZETAKER—An excellent late variety, nearly globular in form. Under proper conditions reaches great size. If started in greenhouse it may grow 12 to 15 inches in circumference. Flesh pure white, fine grained and delicate in flavor. If properly ripened and stored it is excellent for fall and early winter, but will not keep for late winter. Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 40c; Lb., \$1.35.

SOUTHPORT YELLOW GLOBE—A rather late main crop variety, more perfectly globe-shaped than Globe Danvers, skin pale straw color, flesh creamy-white, fine grained and of mild and excellent flavor; a heavy cropper and excellent keeper. Eastern grown seed, Pkt., 10c; Oz., 20c; $\frac{1}{4}$ Lb., 50c; Lb., \$1.70. Western grown seed, Pkt., 5c; Oz., 15c; $\frac{1}{4}$ Lb., 45c; Lb., \$1.50.

SOUTHPORT LARGE WHITE GLOBE—(Very short crop.) A very attractive Onion that usually commands the highest price, true globe shape, 2 to $2\frac{1}{2}$ inches in diameter, flesh true white, of mild flavor, too late to grow north of Massachusetts. Eastern grown seed, Pkt., 10c; Oz., 40c; $\frac{1}{4}$ Lb., \$1.00; Lb., \$3.50. Western grown seed, Pkt., 10c; Oz., 30c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.75.

WHITE PORTUGAL—Medium sized Onion, very late, rather flat in shape, mild flavor. It is used for sets, for pickles, for early bunching or Green Onions, and as a large White Onion for fall and early winter use. Our seed is French grown and cannot be excelled. Pkt., 10c; Oz., 25c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.50.

AILSA CRAIG—By some this is considered the largest Onion grown, and in addition it is of excellent quality, mild and tender. In color and general appearance it is not greatly unlike Ohio Yellow Globe. The seed crop has practically failed two years in succession, and seed is very difficult to obtain. Pkt., 10c; Oz., 50c; $\frac{1}{4}$ Lb., \$1.40; Lb., \$4.50.

WHITE BARLETTA OR WHITE QUEEN

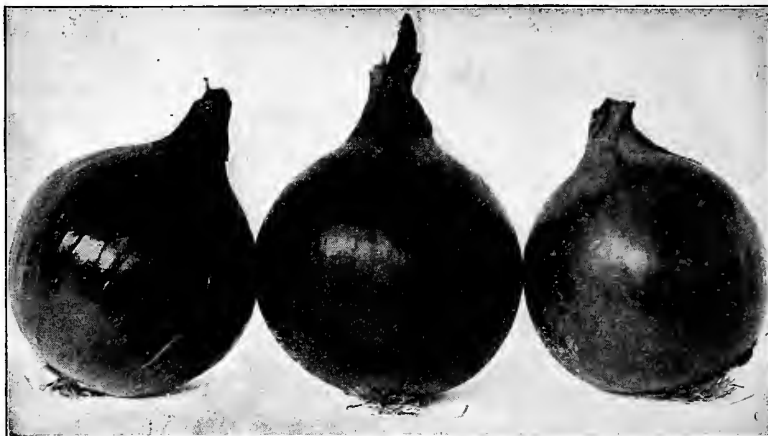
—A very early, pure white, rather small, flat Onion, 1 to 2 inches in diameter. Recommended as the best of all for small pickles, and the earliest ripening Onion in cultivation. Pkt., 5c; Oz., 15c; ¼ Lb., 45c; Lb., \$1.60.

YELLOW DANVERS—Productive, very extensively used for early or main crop, medium sized bulb, thick through but flattened, with coppery yellow skin, thick neck, cream colored flesh, mild and good flavor, a heavy yielder that ripens evenly and keeps well. Pkt., 5c; Oz., 15c; ¼ Lb., 35c; Lb., \$1.10.

YELLOW GLOBE DANVERS—One of the most extensively used main crop varieties, a standard for winter use, almost true globe shape, beautiful yellow skin, pure white flesh, good size and thin neck, matures slightly earlier than Southport Yellow Globe. The crop ripens uniformly and keeps well. Our stocks are as carefully grown and cared for as can be, and will give satisfaction. Pkt., 5c; Oz., 15c; ¼ Lb., 40c; Lb., \$1.50.

CHESTER'S FLAT CANARY—A new Onion that the introducer, an Onion set merchant, thinks will supplant all other kinds of Onions for sets. It is also of saffron-yellow or canary-yellow color, early, with well ripening qualities; every plant making a marketable bulb; forms good sized hardy bulbs of great keeping qualities. Pkt., 10c; Oz., 25c; ¼ Lb., 80c; Lb., \$2.50.

CHESTER'S GLOBE CANARY—A new Onion of great merit, globe shaped, light saffron-yellow or canary in color, flesh fine grained, pure white, bulbs very hard and are great keepers. Some keep until well into spring. Shape ideal for a fine market Onion. Pkt., 10c; Oz., 25c; ¼ Lb., 80c; Lb., \$2.50.



Southport Red Globe.

PARSLEY

This is used for flavoring soups and stews and for garnishing. Use rich soil, sow in drills one foot apart, covering the seed very lightly. It is slow in germinating, requiring two or three weeks. Thin plants to 4 in. apart.

FERN LEAVED—One of the most beautiful and artistic in form and color, fern-like, highly ornamental, ideal for garnishing. Pkt., 5c; Oz., 15c; ¼ Lb., 35c; Lb., 85c.

HAMBURG OR THICK ROOTED—A plain leaved variety, forming a long, thick edible root. Much used for soups and stews. Pkt., 5c; Oz., 10c; ¼ Lb., 35c; Lb., \$1.10.

MOSS CURLED—Very finely curled and crimped, bright green and very ornamental. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 85c.

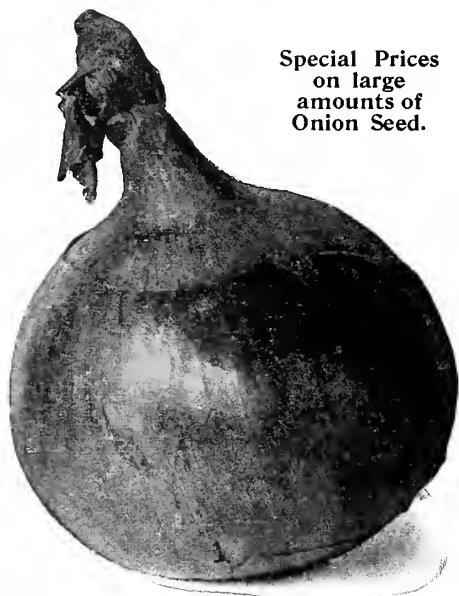
PLAIN—A very hardy variety, leaves flat and not curled. Much used for soups and stews. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 85c.

PARSNIP

PARSNIPS ARE at their best when grown on deep, rich, sandy soil, but will make good roots on any soil which is deep, mellow and moderately fertile. The seed is sometimes slow in germinating and should be sown as early as possible in drills 2½ ft. apart. Cover to the depth of a half inch and press down the soil firmly over the seed; give frequent cultivation and thin the plants to 6 inches apart in the row.

HOLLOW CROWN—A large cropper of good flavor, excellent for general cultivation, requires deep soil. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

GUERNSEY—Roots somewhat longer than the preceding. Flesh fine grained, excellent quality. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

Special Prices
on large
amounts of
Onion Seed.

Yellow Globe Danvers.

ONION SETS

It is impossible, as this catalogue is written, to fix prices for sets. We follow the market and will fill orders at market prices. In bushel, peck and one-half peck prices, the buyers pay the express or freight. In pint and quart prices, we pay the postage and send the sets by mail.

	Mail Postpaid.		Express not Prepaid.		
	Pt.	Qt.	½ Pk.	Pk.	Bu. (28 lb.)
Red	10c	20c	50c	80c	\$2.50
White	10c	20c	50c	90c	2.75
Yellow	10c	20c	50c	80c	2.50



Moss Curled.

Erbsen **PEAS** Chicacos o Guisantes

PEAES do well on almost any warm, fertile soil. Too much manure, very rich or wet mucky soil should be avoided, as they cause too rank a growth of vine and a rather small proportion of pods. The quickest results are obtained by planting the seed only an inch deep, but for June and late crop, best results are obtained by planting in trenches 6 or 8 inches deep, covering an inch at least, and later, after the vines have grown, say 6 inches high, filling the trench on up. All varieties should, in our opinion, be sown early, as they thrive best in cool weather. A succession can easily be made by choosing early, medium and late varieties to sow. Our experience is that the tall varieties yield more heavily and are more certain to succeed under unfavorable conditions than the dwarf varieties.

Wrinkled sorts are designated by asterisk.

ALASKA—An invaluable smooth variety for market gardeners and canners. A blue pea that matures all at one picking. Rather heavy crop; the earliest of any pea we know. Pkt., 10c; Pt., 15c; Qt., 25c; ½ Pk., 75c; Pk., \$1.40; Bu., \$5.50.

***ADVANCER**—A few days later than American Wonder. Vines a trifle larger. In our trial grounds this year this pea stood heat and drouth better than any of the earlier sorts, with the possible exception of Little Marvel, which also did well; a good yielder of good quality. Pkt., 10c; Pt., 15c; Qt., 25c; ½ Pk., 85c; Pk., \$1.60; Bu., \$6.00.

***CHAMPION OF ENGLAND (Tall)**—One of the best tall-growing, late varieties. Grows medium high for a tall variety, with medium sized pods, but a good yielder and of excellent quality. Pkt., 10c; Pt., 20c; Qt., 30c; ½ Pk., 85c; Pk., \$1.65; Bu., \$6.50.

***DWARF GREY SUGAR**—A genuine edible podded variety; the pods being brittle are easily broken up and cooked. We like this sort on our own table, although eaten pods and all, they are not quite so good as the best standard shelled peas. This variety grows about 18 inches tall, with medium pods. Decidedly prolific. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., \$1.15; Pk., \$2.00; Bu., \$7.00.

***QUITE CONTENT (New)**—A very large podded variety, maturing a few days later than Telephone, heavy yielding and of the very best quality. Vines usually grow 5 or 6 feet tall, and should be brushed. This variety is coming into much prominence. Pkt., 10c; Pt., 25c; Qt., 45c; ½ Pk., \$1.25; Pk., \$2.35; Bu., \$9.00.

We prepay postage on Peas in packets, pints and quarts; larger amounts go at purchaser's expense.

Little Marvel.

Alderman.

Buttercup.

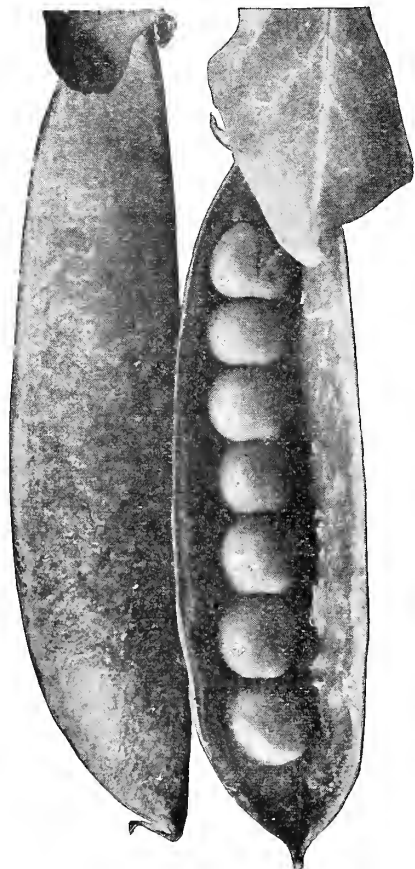
***ALDERMAN**—A medium sized variety with rather large vines, but with us not requiring support. The pods are large, fine appearing, with good sized peas. Under very trying conditions with us it did not yield quite so well as some other sorts. The quality is excellent. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., 90c; Pk., \$1.75; Bu., \$7.00.

***AMERICAN WONDER**—One of the very earliest wrinkled peas. Grows 10 to 12 in. high; yields reasonably well. A variety we can recommend for very early growing. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., 90c; Pk., \$1.75; Bu., \$7.00.

***EVERBEARING**—The vines are rather large but do not require artificial support. A mid-season, late variety, well described by its name. If pods are gathered from it, it will continue to bear for two or three weeks and would be desirable for small gardens on this account. The peas are large and of good quality. Pkt., 10c; Pt., 15c; Qt., 30c; ½ Pk., 85c; Pk., \$1.65; Bu., \$6.50.

***LITTLE MARVEL**—One of the very earliest peas, maturing with Nott's Excelsior, American Wonder and Premium Gem. Wrinkled, extremely sweet, very nice quality, decidedly productive and stands heat and drouth well. We consider this an extremely valuable variety, one of the very best. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., 90c; Pk., \$1.75; Bu., \$7.00.

***BUTTERCUP**—A new medium early pea, coming between Premium Gem and Telephone. Hardy with long, well filled pods; a good yielder. Splendid sort for market gardeners. Pkt., 10c; Pt., 35c; Qt., 60c; ½ Pk., \$1.25; Pk., \$2.35; Bu., \$9.00.



Gradus.

***GRADUS**—An extra early wrinkled pea of splendid quality, and a heavy producer; vines about 2½ in.; pods large; peas extremely large, and closely packed in the pod; the quality all that could be asked for. This is a standard sort and one that is difficult to improve on. Pkt., 10c; Pt., 25c; Qt., 40c; ½ Pk., \$1.25; Pk., \$2.25; Bu., \$8.50.

TELEGRAPH—A strikingly handsome, tall growing, large pea; on the Telephone type. The pods are very handsome, large and well-filled with choice peas. It yields well and stands heat and drouth admirably. Pkt., 10c; Pt., 25c; Qt., 45c; ½ Pk., \$1.25; Pk., \$2.25.

***NOTT'S EXCELSIOR**—Wrinkled. One of the standard dwarf early sorts; very nearly as early as Alaska, and being wrinkled, of much better quality than Alaska. The pods are medium sized; peas medium or larger, and for such an early sort, of very good quality. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., 90c; Pk., \$1.75; Bu., \$7.00.

***PREMIUM GEM**—Wrinkled. Vines 12 or 15 in. in height; pods 2½ to 3 in. long; about three days later than American Wonder. An excellent pea either for market gardeners or home use. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., 90c; Pk., \$1.75; Bu., \$7.00.

***STRATAGEM OR IMPROVED STRATAGEM**—Wrinkled. A mid-season variety with strong vines about 18 in. high; pods large with numerous peas. They yield with us, under adverse conditions, just moderately well. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., 90c; Pk., \$1.75; Bu., \$7.00.

***DWARF CHAMPION**—A medium sized variety adapted to main crop. In our trial grounds it stood heat and drouth better than many other sorts and made a better yield. It resembles Champion of England, except in size of vine. Pkt., 10c; Pt., 15c; Qt., 30c; ½ Pk., 85c; Pk., \$1.65; Bu., \$6.50.

***HORSFORD'S MARKET GARDEN**—A medium size, main crop variety of good appearance and good quality. Under favorable conditions makes a heavy crop, but in our trial grounds did not stand heat and drouth as well as many others sorts. Pkt., 10c; Pt., 15c; Qt., 25c; ½ Pk., 75c; Pk., \$1.60; Bu., \$6.00.



Telephone.

***TELEPHONE**—Wrinkled. A rather late sort; tall, growing 3½ to 4 ft. in height; has very large pods and large fine peas. It continues in bearing for quite a long time. Pkt., 10c; Pt., 20c; Qt., 30c; ½ Pk., 85c; Pk., \$1.65; Bu., \$6.50.

***THOMAS LAXTON**—Wrinkled. A medium sized variety of the Gradus type, which it rather closely resembles, the peas ripening a few days later than Gradus. The vines are strong, pods large and fine, with peas of excellent size and quality. Pkt., 10c; Pt., 20c; Qt., 40c; ½ Pk., \$1.20; Pk., \$2.25; Bu., \$8.00.

***DUKE OF ALBANY**—In our trial grounds this was the most striking of the tall growing, late peas, the pods being very large and attractive and the vines yielding very heavily. It is on the Telephone order and of the best quality. It stood drouth very well, one of the best in this respect, and one of the finest flavors. Pkt., 10c; Pt., 20c; Qt., 35c; ½ Pk., \$1.25; Pk., \$2.25; Bu., \$8.00.

***LAXTONIAN**—A variety on the type of Gradus, maturing about the same time. The pods are very large and numerous; the peas large and attractive. We would place this pea in a similar class to Gradus in every way. Pkt., 10c; Pt., 25c; Qt., 45c; ½ Pk., \$1.25; Pk., \$2.25.



Laxtonian.

***YORKSHIRE HERO**—A second early variety, with strong plants similar to Everbearing. With us it stands drouth and heat admirably and makes a satisfactory yield. Pods and peas medium sized and good quality. Pkt., 10c; Pt., 15c; Qt., 25c; ½ Pk., 85c; Pk., \$1.60; Bu., \$6.00.

MANMOTH PODDED SUGAR—This sort differs materially from the Dwarf Gray Sugar; the vines being larger; the pods much broader; a larger pea in every way. The quality is about the same as the Dwarf Gray Sugar. In our trial grounds each of these stood heat and drouth moderately well. Pkt., 10c; Pt., 20c; Qt., 40c; ½ Pk., \$1.20; Pk., \$2.25; Bu., \$8.50.

WHITE MARROWFAT—A late and tall growing variety, yielding very well for us, and of excellent quality. The pods are medium to large and uniform. It stands heat and drouth admirably. Pkt., 10c; Pt., 15c; Qt., 25c; ½ Pk., 75c; Pk., \$1.25; Bu., \$5.50.

TALL GRAY SUGAR (New)—Of all the edible podded varieties, this one impresses us most favorably. Plants grow about 6 feet tall, are well loaded with large, crisp pods, excellent flavored, a good variety in every way. Both in quality and productiveness this variety deserves a very important place. Pkt., 10c; ½ Pt., 20c; Pt., 40c; Qt., 75c; ½ Pk., \$2.10; Pk., \$4.00.



Duke of Albany.

Pfeffer **PEPPER** Pimiento

The culture is the same as for Egg Plant, and plants require as much heat to perfect them. Do not plant hot varieties and Mangoes close together.

CAYENNE LONG RED—Bright red, slender pods, 2½ to 3 inches long, very hot. A standard variety. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.25.

RED CHERRY—A second early sort, yielding abundantly of round fruit three-fourths inch in diameter, very hot. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c.

CHINESE GIANT—One of the largest of the Sweet Peppers. Usually from 2 to 4½ inches long and nearly as thick as long. With us this is rather late in ripening. The flavor is mild and excellent. Pkt., 10c; ½ Oz., 30c; Oz., 50c; ¼ Lb., \$1.50; Lb., \$5.00.

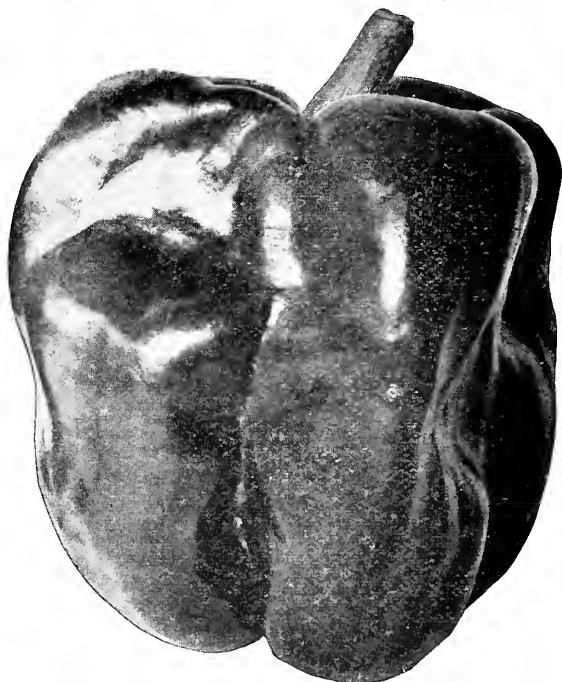
GOLDEN QUEEN—A mild variety, smooth, about 2x2½ inches, golden color, moderately early. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 80c; Lb., \$2.50.

LARGE BELL OR BULL NOSE—An early, mild, large red variety that may be eaten as a vegetable, medium sized, about three by four inches, color when ripe, bright crimson; good flavor. Pkt., 5c; ½ Oz., 10c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.00.

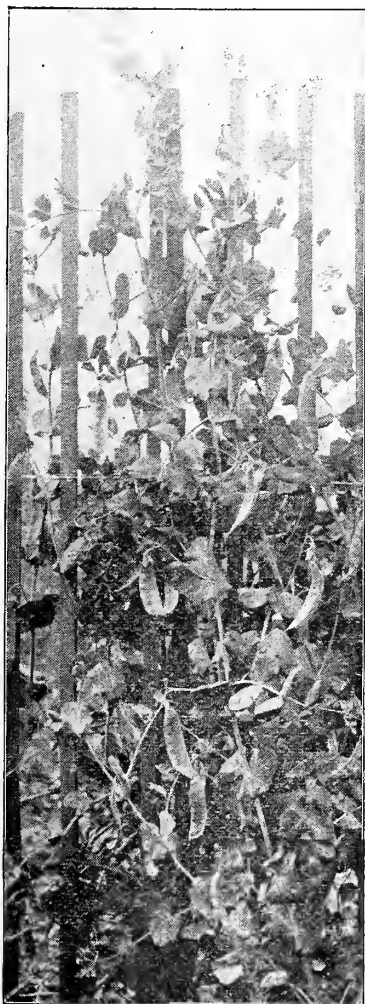
SWEET MOUNTAIN—A large variety of blunt shape, smooth, quite late, sweet and mild flavored. Pkt., 5c; ½ Oz., 10c; Oz., 20c; ¼ Lb., 60c; Lb., \$2.00.

RED CHILI—A very hot variety used for making pepper sauce, quite similar to Red Cayenne, moderately late. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.50.

RED CLUSTER—A moderately late, hot variety, with scarlet fruit crowded together in bunches or clusters at the top of each branch. Very productive. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c.



Bull Nose.



Tall Gray Sugar.



Celestial.

UPRIGHT SWEET SALAD—A moderately early, productive variety, the fruit growing upright; very mild, nice flavor, rich crimson color. Pkt., 10c; ½ Oz., 20c; Oz., 30c; ¼ Lb., 85c; Lb., \$2.50.

CELESTIAL—A very attractive appearing, hot variety fruit, upright, about 1½ inches in diameter and 1¾ inches long. In different stages of ripening the fruit will be nearly white, purple, yellow and orange, giving the plant an unusual and very ornamental appearance. Quite prolific in yield and quite early. Pkt., 5c; ½ Oz., 15c; Oz., 30c; ¼ Lb., 80c.

PIMIENTO—This variety is very productive and its fruits are exceptionally attractive. They are of good size, medium length, very smooth and glossy, and in color a beautiful scarlet. The flesh is very solid and thick, mild and finely flavored. This variety is the kind which is so largely used by canners; it is also valuable for salads and stuffed peppers. The plants are vigorous and upright. From 2 to 2½ feet high, with short, broad, dark green leaves. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., \$1.00; Lb., \$3.00.

NEAPOLITAN—A mild variety and the earliest one we have; fruit about 4 inches long, making good yield, crimson color, rather slender. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.50.

GOLDEN DAWN—A mild golden variety, very much like Golden Queen and matures at the same time, rather early, a good yielder. Pkt., 5c; ½ Oz., 15c; Oz., 20c; ¼ Lb., 75c.

RUBY KING—One of the most popular varieties, quite large, ruby-red in color, rather late, mild. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.50

MIXED MANGOES—This mixture will give you all of the choicest varieties in all colors and plenty of them for the average sized family. Pkt., 10c; three Pkts., 25c.

Page 32
for
Collections



Neapolitan Pepper.

RHUBARB

This requires a deeply cultivated, rich soil. Seed should be sown early in the spring in rows one foot apart. The second year after planting, plants may be transplanted in the fall to permanent location planned for them. Set roots two feet apart each way and two feet deep. One ounce of seed produces 500 plants.

VICTORIA—The most popular variety, comes true from seed. Excellent for family use as well as market. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

TOBACCO

Tobacco seed should be sown as soon as possible in the spring after danger of frost is over. Usually a quantity of brush is burned and the ashes mixed with the earth. Then the seeds may be sown, covering lightly. When the plants are six inches high, transplant in rows, setting four or five feet apart each way. The ground should be kept well worked.

IMPROVED WHITE BURLEY—A standard sort of great merit. This strain is much superior to the regular White Burley. Our seed is grown by an expert and we take the greatest pains to have it of best possible quality. Pkt., 10c; ½ Oz., 20c; Oz., 35c; ¼ Lb., \$1.25; Lb., \$4.50.

CONNECTICUT SEED LEAF—A hardy cigar variety, well adapted to the Middle and Southern States. Pkt., 10c; Oz., 30c; ¼ Lb., \$1.10; Lb., \$4.00.

BIG HAVANA—The earliest cigar variety, a hybrid Havana or Cuban seed leaf. Pkt., 10c; Oz., 30c; ¼ Lb., \$1.10; Lb., \$4.00.

VEGETABLE PLANTS AND ROOTS

ASPARAGUS ROOTS

We offer nothing but the best. We sell 500 roots at thousand rates; 50 at hundred rates.

Varieties.	Post Paid East of Rocky Mts.		By Express Not Prepaid.	
	Doz.	100	100	1,000
Bonvalet Giant	\$0.40	\$1.75	\$0.85	\$7.00
Colossal .....	.35	1.25	.75	5.50
Columbian Mammoth .....	.35	1.75	.75	6.00
Argenteuil .....	.35	1.25	.75	6.00
Palmetto .....	.35	1.25	.75	5.50

TRANSPLANTED ROOTS ASPARAGUS will make a cutting bed in one season. Price for any variety:

Mail Prepaid.		Express Not Prepaid.	
Doz. . . \$1.00	100 . . \$4.00	100 . . \$3.00	1,000 . . \$20.00

HORSERADISH

MALINER KREN—This new variety comes from Bohemia and is one of the finest ever seen in the United States. Cuttings planted in April will produce fine, large radish the first of the following October. It is white, free from disease, grows to great size; yields very heavily; grows on any kind of soil and stands dry weather well. It requires 10,000 cuttings to plant an acre. This variety has produced four tons per acre, worth \$100 per ton. Prices: Roots ready for planting, by mail, postpaid, 6 for 15c; Doz., 25c; 50 for 75c; 100 for \$1.35. By express, 500 for \$4.50; 1,000 for \$8.00.

COMMON HORSE RADISH—Roots ready for planting, by mail, postpaid, Doz., 25c; 50 for 60c; 100 for 90c. By express, not paid, 500 for \$2.50; 1,000 for \$4.50.

RHUBARB ROOTS

Extra large field cuttings. Each, 15c; 2 for 25c; 4 for 45c. By express, not paid, 12 for \$1.00; 50 for \$3.50; 100 for \$6.00; 1,000 for \$40.00.



1. Large Cheese. 2. Big Tom. 3. Striped Cushaw. 4. King of the Mammoths. 5. Golden Oblong. 6. Early Sugar.

Speise Kurbisse **PUMPKIN** Calabaza

Culture is similar to that of Squash, but they stand more punishment, do well in field corn, while Squashes do not succeed so well here. One ounce plants twenty-five hills; four pounds to the acre. In a small garden they may be planted near a low fence, allowing vines to climb over.

GREEN STRIPED CUSHAW—Eighteen to 24 inches long, 12 inches in diameter, green striped with crooked neck, excellent for pies, sells well on market. Not quite as rich and fine grained as some smaller varieties of pumpkins. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

GOLDEN OBLONG—Five to seven inches in diameter, 12 to 18 inches long, good for pies and a good keeper, orange color. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 80c.

JAPANESE PIE—Medium size, productive, ripens early, excellent for pies, flesh yellow. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

KING OF THE MAMMOTHS—A very large variety, usually growing two feet in diameter with salmon-orange skin, thick yellow flesh. Greatly esteemed for exhibition purposes and sometimes used for pies. It is really less productive than several smaller varieties. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 85c.

BIG TOM OR IMPROVED LARGE FIELD—This we have found to be the heaviest yielding stock pumpkin that we have ever grown. Size usually 12 to 15 inches in length, about 12 inches in diameter, a deep orange color, may be used for pies, but is coarse grained. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 15c; Lb., 40c.

LARGE SWEET CHEESE OR KENTUCKY FIELD—An excellent standard variety, cheese shaped, nearly all yellow, 12 to 18 inches in diameter, excellent for canning, a good keeper and good for pies. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 15c; Lb., 50c.

MANMOTH TOURS—A very large variety, a trifle later than King of the Mammoth, about the same size and producing about the same, oblong, skin a mottled green. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

QUAKER PIE—A variety closely resembling Large Cheese, except in form, this being oblong instead of cheese shaped, an excellent yielder. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 90c.

SWEET POTATO—A variety very well suited for pies, rather small, bell-shaped, excellent quality. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 75c.

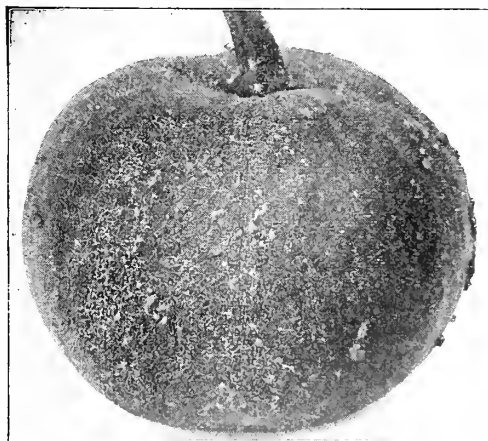
WINTER LUXURY—A round variety about 8 inches in diameter, skin a trifle netted like musk-melon. Quality for pies is excellent. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 85c.

SWEET OR SUGAR—A famous New England variety, about 10 inches in diameter, fine grained, sweet, excellent flavor, a good keeper. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 20c; Lb., 70c.

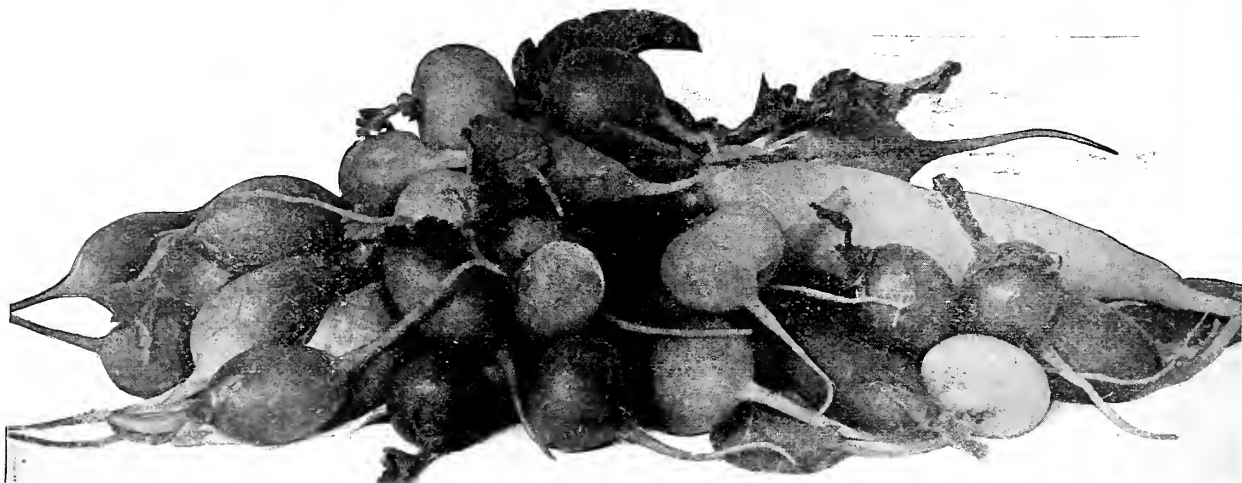


Early Sugar.

See page 32 for our Big Dollar Collection. Thirty-two packets for One Dollar. All good varieties and full sized packets.



Winter Luxury.



Mixed Radishes.

Radies RADISH Rabanitos

FOR EARLY USE, sow as soon as the ground can be worked in the spring, in drills 6 to 10 inches apart, covering seed one-half inch deep. Thin to one inch apart in the row. A rich soil, not too heavy is preferred. The summer varieties may be seeded at the same time, if desired, and they will come on, making large, handsome Radishes after the early varieties have become worthless. Winter varieties should not be sown until about August 1st.

Varieties marked with asterisk (*) are best suited to market gardeners.

***LONG WHITE ICICLE**—Probably the very finest of the early white varieties. Excellent for forcing or for outdoors. It is early, very attractive in appearance, does not become pithy until quite old, staying in its prime longer than any other early variety. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 65c.

CRIMSON GIANT—A round Radish exceptionally large in size; excellent for marketing or home use. Does not become pithy quickly. The roots become quite large; 1½ in. in diameter before becoming pithy. May also be used for forcing. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., 90c.

NON PLUS ULTRA—Scarlet, turnip-shaped, forcing. Tops very small; flesh crisp and well flavored. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 75c.

***LONG CINCINNATI MARKET**—A variety considerably used in the South for shipping north in winter and also extensively grown around Cincinnati, O. An excellent market gardener's sort and also good for the home garden. Roots well formed, perfectly straight, 6 to 7 in. long. Tops very small. Flesh crisp; does not become pithy at all early. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

***TURNIP EARLY SCARLET WHITE TIPPED**—Very early, bright scarlet, white tipped, globe shaped, excellent quality. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 65c.

***WOOD'S EARLY FRAME**—An excellent variety for forcing and also for first crop sowing outdoors; hardy; half long. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 65c.

EARLY WHITE BOX—Excellent for forcing or outdoor growth. One of the very best for fall use. It makes rapid growth but may be left until it reaches a diameter of 2 in. before becoming pithy. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 55c.

***VICK'S SCARLET GLOBE**—One of the very best early sorts. Adapted either to hothouse or outdoors. Stands heat better than many other varieties and it does not become pithy as soon as many other sorts. Ready for use in about 25 days. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., \$1.00.

***WHITE STRASBURG SUMMER**—Considered to be one of the very best large white summer sorts. Roots remain in condition for use for a long time; become 4 to 5 in. long; 1 to 2 in. in diameter. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., 90c.

CHARTIER LONG WHITE (Nonpareil)—Developed from Improved Chartier and just like it only color of tips is white instead of scarlet. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.

***FRENCH BREAKFAST**—An excellent variety either for forcing or for outdoor growth. Very early, scarlet with white tip. It gets pithy rather soon, but excellent while it lasts. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 55c.

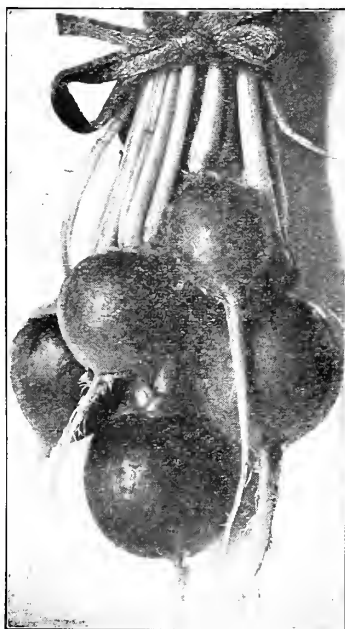
HALF LONG DEEP SCARLET (Paris Beauty)—A variety extensively grown in the South and good anywhere. May be used for forcing. Roots about 2½ in. long. Deep scarlet. Does not become pithy very quickly. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.

LONG WHITE VIENNA OR LADY FINGER—A summer variety with medium sized tops; white roots 6 or 7 in. long; from ⅝ to ¾ in. in diameter. Flesh crisp and tender. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.

***EARLY LONG SCARLET SHORT TOP**—Standard sort, excellent for forcing or for outdoor growing. Tops short and comparatively small, roots bright red, long, slender, growing about half out of the ground 5 to 6 in. long. Ready to use in about 25 days. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 75c.



Icicle Radish.



Vick's Scarlet Globe.

***WHITE STUTTGART SUMMER**—Large size, often 4 in. in diameter; top-shaped, flesh white; does not become pithy until very late. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., 60c.

ROSE CHINA WINTER—One of the best winter varieties. Roots large, 1 to 2 in. in diameter; 4 to 5 in. long. Keeps well throughout the autumn and winter. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

WINTER LONG BLACK SPANISH—Black skin, white flesh. A winter variety. Roots when mature, 7 to 9 in. long; 2 to 3 in. in diameter. A good keeper. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c.

WINTER ROUND BLACK SPANISH—Similar to the Long Black Spanish, except that it is top-shaped; 3 to 4 in. in diameter; skin black; flesh white; keeps well. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 55c.

***WINTER CELESTIAL**—The whitest and least pungent of the winter varieties. Roots 6 to 9 in. long; 2 to 3½ in. in diameter. Fine for market gardeners. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 55c.

CALIFORNIA MAMMOTH WHITE—An excellent variety. Later than Celestial and not quite so mild. Roots white;

9 to 12 inches long; 3 to 4 inches in diameter. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 55c.

LONG BRIGHTEST SCARLET WHITE TIPPED, OR CARDINAL WHITE TIPPED—Excellent either for home use or for market. The upper part scarlet and pure white tips; handsome and a good seller. Should be ready for use about 25 days after planting. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 70c.

***LONG SCARLET CHARTIER or SHEPHERD**—An excellent sort for spring and summer use. Roots 7 and 8 in. long when mature. Scarlet shading into white at tip. Very popular among market gardeners. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

EARLY SCARLET TURNIP—A good variety either for forcing or outdoor early planting. Round or turnip-shaped with small tops. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 90c.

MIXED RADISHES—Many of our customers wish to make only one sowing, and these find this mixture just what they want. It contains all of the best varieties, early, medium and late, thus providing a succession. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 65c.

Haferwurzeln **SALSIFY** Salifi

THIS PLANT IS used for a substitute for oysters, and we like it fully as well as the oysters themselves. It is either used in soup or scalloped with best results. Sow early in the spring on rather light, fertile ground, in drills 18 inches apart, thin the plants to 1 or 1½ inches in the row. The roots are more inclined to fork on ground heavily manured with fresh manure or on sod ground. Before the ground freezes they should be dug and stored as you would other root crops. Light freezing greatly benefits the flavor.

LONG WHITE—Well-known, standard variety. Pkt., 5c; Oz., 15c; ¼ Lb., 30c; Lb., \$1.10.

MAMMOTH SANDWICH ISLAND—An improved variety that grows nearly double the size of the old sorts, uniform and of the best quality and flavor. Pkt., 10c; Oz., 20c; ¼ Lb., 60c.

Spinat **SPINACH** Espinaca

This plant will grow in any ordinary soil and its cultivation is easy. For summer use sow early in the spring; for early spring use sow in August or September in drills 12 to 14 inches apart. Before winter cover lightly with sod or litter and uncover in the spring when new growth begins.

LONG SEASON—Plants comparatively small but compact, short stemmed, leaves dark green, spreading flatly on the ground, unsurpassed for marketing during the warm summer months. Stands longer before going to seed than other sorts. Pkt., 5c; Oz., 10c; ¼ Lb., 15c; Lb., 30c.

LONG STANDING—A very popular variety with market gardeners. It does not run to seed quickly, grows rather large, becoming somewhat procumbent when mature; leaves broad, arrow-shaped or rounded, somewhat crumpled. Oz., 5c; ¼ Lb., 15c; Lb., 30c.



Sandwich Island Salsify.

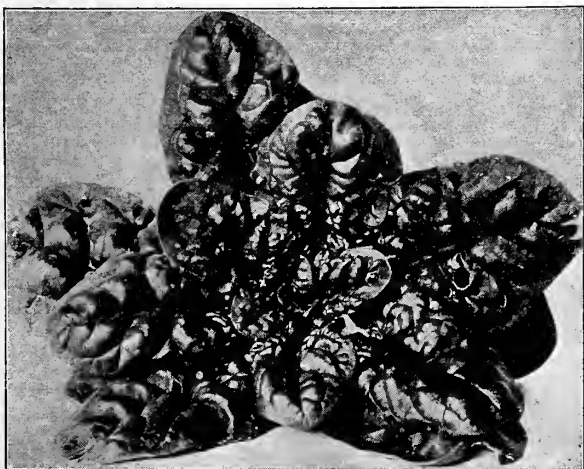
BLOOMSDALE OR SAVOY-LEAVED—A favorite with Southern truckers, as it is hard and a splendid shipper, leaves thick and blistered, very hardy. Oz., 5c; ¼ Lb., 15c; Lb., 30c.

NEW ZEALAND—Stems and leaves are soft, fleshy and thick. The plant resists heat excellently, grows well all season and will furnish delicious greens throughout the entire summer. Pick off the leaves from the stem, cooking them alone. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 70c.

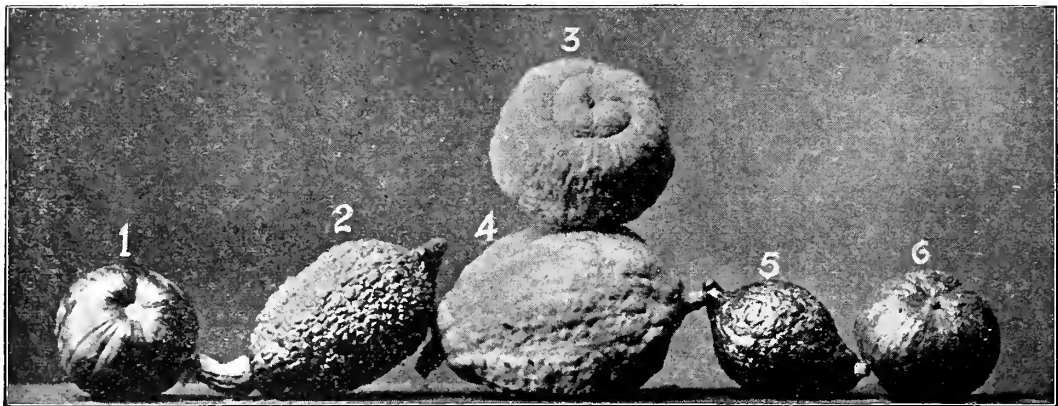
PRICKLY OR WINTER—This variety may be seeded either in fall or spring, well adapted for each purpose. Plant becomes quite large at maturity, yields large quantities of medium sized leaves. Oz., 5c; ¼ Lb., 15c; Lb., 30c.

VICTORIA—This variety is of true Savoy type with dense foliage, broad, dark green leaves, a great heat resister, remains in prime condition two or three weeks after many other sorts have run to seed. Oz., 5c; ¼ Lb., 15c; Lb., 30c.

BROAD FLANDERS—A standard variety with bright green, broad, thick leaves, usually arrow-shaped, but sometimes rounded, surface fairly smooth but sometimes crumpled, well liked by market gardeners. Oz., 5c; ¼ Lb., 15c; Lb., 35c.



Long-Standing Thick-Leaved.



1. Early Sugar Pumpkin. 2. Warty Hubbard Squash. 3. Turk's Cap Squash. 4. Boston Marrow Squash. 5. Red Hubbard Squash. 6. Golden Bronze Squash.

Speise Kurbisse **SQUASH** Calabaza

Culture is the same as for Cucumbers and Melons. The bush varieties should be four feet apart, the running kinds six to ten feet apart.

RUNNING VARIETIES

BOSTON MARROW—A moderately early, decidedly prolific variety, 10 to 14 inches in diameter, 12 to 16 inches long, light salmon color, very thick meated, fine grained, sweet, excellent quality every way and a reasonably good keeper. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 80c.

DELICIOUS—A moderately early, medium sized variety, about 7 or 8 inches in diameter, 10 to 14 inches long, dark green color, thick flesh, fine grained, sweet and very dry. A reasonably good keeper. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.00.

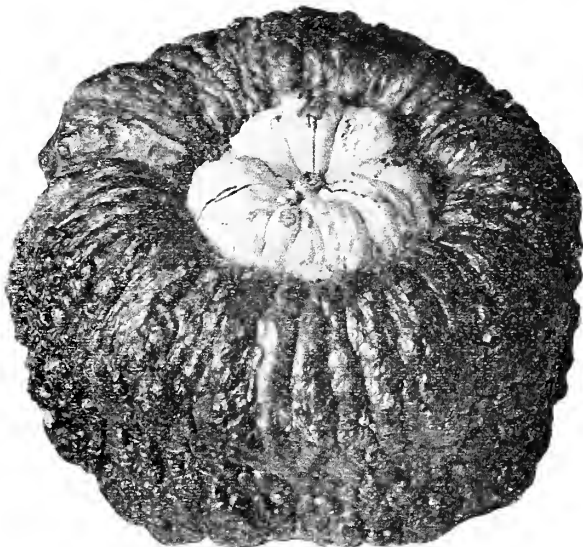
ESSEX HYBRID OR TURK'S CAP—A cylindrical-shaped Squash with a large nub or "Turk's Cap" at the blossom end, 7 to 12 inches in diameter, light salmon color, hard shelled, almost solid meated, very fine grained, sweet and of finest flavor. It is a good keeper. We consider this one of the very best varieties. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 85c.

FORDHOOK—We have these both in the running and bush varieties. The running variety is a little the more uniform of the two, fruit small, about 4 inches in diameter and 10 or 12 inches long, cream color, moderately hard shelled, fine grained and good quality. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.10.

GOLDEN BRONZE—A medium sized variety about 8 inches in diameter, blunt on the blossom end, color about like Hubbard except for a shade of bronze, flesh thick, fine grained, sweet in flavor. An excellent keeper. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.00.



Delicious Squash.



Turk's Cap.

HUBBARD—A deservedly standard variety, medium sized, 10 to 12 inches in diameter, dark green, moderately warted, thick fleshed, fine grained, sweet, dry, an excellent keeper. We believe our strain of this Squash to be equal to any. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 35c; Lb., 80c.

RED OR GOLDEN HUBBARD—A variety similar to the original Hubbard, but with a deep salmon-colored skin and smaller in size, being 6 to 8 inches in diameter, 10 to 12 inches long, shell hard, flesh fine grained and sweet, an excellent keeper. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., \$1.10.

WARTED HUBBARD—A variety greatly esteemed by market gardeners, as it is one of the best sellers on market. It is larger than the original Hubbard, with larger warts. Our strain usually runs 10 to 14 inches in diameter, very productive, not quite as nice quality as the original Hubbard. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 80c.

MARBLEHEAD—An old standard sort and one of the best, size and shape about like the original Hubbard, skin gray, shell hard, fine grained, sweet and a good keeper. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 35c; Lb., \$1.10.

DELICATA—An early, small variety, about the size of the Fordhook, or a trifle larger, and similar shape, yellow and green mottled; productive; a good keeper; not quite as rich as Turk's Cap or Hubbard. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 30c; Lb., 75c.

BUSH VARIETIES

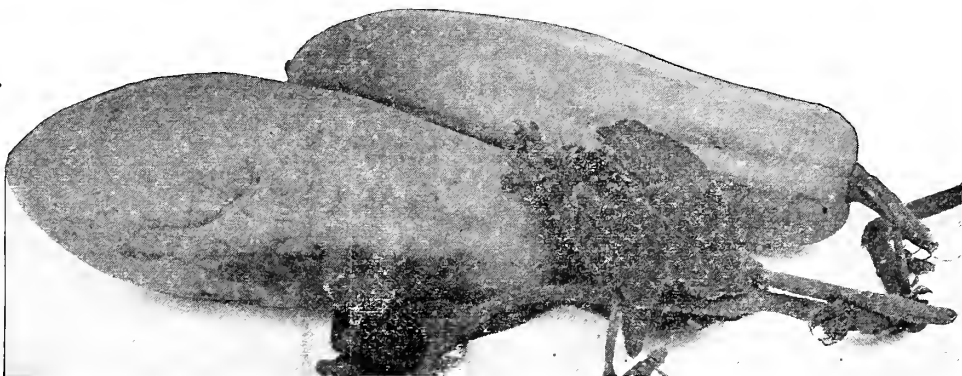
FORDHOOK — For our own use we like this the best of any of the summer Squashes. The fruit is small, 3 or 4 in. in diameter; 6 to 8 in. long; the flesh firm, fine grained and sweet; a good yielder. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., \$1.25.

SUMMER CROOKNECK — An old standard sort, early and productive, fruit crookneck, medium sized, rich golden-yellow, thickly warted. Pkt., 5c; Oz., 10c; ¼ Lb., 30c; Lb., 80c.

EARLY WHITE BUSH SCALLOP — The plants are of true bush growth, early maturing, fruit medium sized and productive. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

MAMMOTH WHITE BUSH SCALLOP — An early maturing, flat, scalloped, bush Squash of largest size and handsome appearance. Frequently grows 12 to 14 inches in diameter. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 75c.

MAMMOTH SCALLOPED YELLOW BUSH — Very similar to the Mammoth White Scalloped Bush, except in color, which is pale yellow; flesh creamy-yellow. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 70c.



Fordhook Squash.

MAMMOTH SUMMER CROOKNECK — The largest and one of the earliest crookneck summer Squashes, vines of dwarf, bushy habit, very productive, fruit true crookneck type, rich golden-yellow, thickly warted, large, attractive looking. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 70c.

EARLY YELLOW BUSH SCALLOP — A very early flattened, scalloped, bush Squash of moderate size, productive and fine grained. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 65c.



Marblehead.

Rübe **TURNIP** Nabō

The early varieties may be sown as early as the ground can be worked in the spring. For fall and main crop, the latter half of June is proper seeding time. The Ruta Baga varieties should be planted in drills at least 18 inches apart and thinned out to 6 inches in the row. They should be sown about June 15th. Use one to three pounds seed per acre.

POMERANIAN WHITE GLOBE — Similar to Purple Top White Globe, excepting color, which is pure white. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

YELLOW GLOBE OR AMBER — A large, sweet variety, recommended either for table or stock. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c.

GOLDEN BALL OR ORANGE JELLY — Recommended as the best yellow sort for table use, a good keeper, yellow, globe-shaped, early and rapid grower. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

EARLY SNOWBALL — A medium sized, early variety, pure white, with good flavor. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., 60c.

EARLY WHITE FLAT DUTCH — A standard, flat, early variety, much used in the South, good sized, pure white with small top, fine grained and sweet; grows about 2½ inches in diameter. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c.

PURPLE TOP WHITE GLOBE — As indicated by its name, this variety is white under ground, purple above, flesh white, fine grained and tender, should be used when about 3 in. in diameter. Keeps well and good for market use. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 65c.

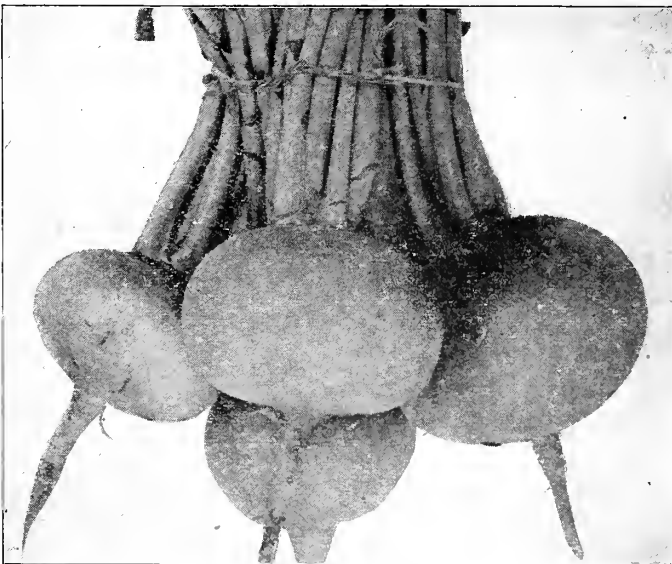
EARLY PURPLE TOP MILAN — The earliest flat variety top purple, bottoms white, medium sized, flat shaped, uniform and good quality. Pkt., 5c; Oz., 15c; ¼ Lb., 35c; Lb., \$1.00.

EXTRA EARLY WHITE MILAN — Similar to purple top Milan, pure white, tops very small, strap-leaved, upright and compact, can be planted close together. Probably earliest variety we have. Pkt., 5c; Oz., 10c; ¼ Lb., 25c; Lb., \$1.00.

PURPLE TOP STRAP-LEAVED — An old-fashioned standard variety, and probably more used than any other. Leaves few, entire and upright in growth, root; flat, medium sized, purple above and white below. Flesh white and of good quality, should be used at about 2½ inches for table use, but grows larger for stock feeding. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 75c.

YELLOW STONE — One of the best yellow varieties, early, yellow flesh, round, somewhat flattened, good quality, and also good for stock. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 60c.

COW HORN OR LONG WHITE — Extensively used for stock feeding and for plowing under. Pkt., 5c; Oz., 10c; ¼ Lb., 20c; Lb., 50c; 10 Lbs., 45c per Lb.; 20 Lbs., 40c per Lb.; 40 Lbs., 35c per Lb.



Early Snowball.

WHITE EGG—Quick-growing, egg-shaped, white and smooth, tops small, flesh clear white, firm, fine grained and sweet. Should be used when roots are 2 inches in

diameter and $3\frac{1}{2}$ inches long. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 25c; Lb., 65c.
SEVEN TOP—A variety used for greens. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 15c; Lb., 60c.

RUTA BAGA

CARTER'S IMPROVED PURPLE TOP—Can be used for the table or for stock feeding. Nearly round, skin yellow, with purple top, flesh yellow and solid, hardy and a heavy yielder. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 15c; Lb., 50c.

IMPROVED AMERICAN PURPLE TOP—One of the best varieties, roots purple above, yellow below ground, smooth, with short neck, globular form and large size. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 15c; Lb., 50c.

LAING'S PURPLE TOP—Used either for table or stock. One of the earliest. Round necks, small tops, strap-leaved, skin purple above, yellow below, flesh yellow neck small. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 15c; Lb., 50c.

MONARCH, TANKARD OR ELEPHANT—Originated by Carter and Company and very highly prized in England, Scotland and Ireland. Large tankard-shaped roots, with

small neck and tops, purple above ground, yellow beneath. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 15c; Lb., 50c.

SKIRVING'S KING OF SWEDES—A large purple top, round or oval variety, of yellow flesh and excellent quality. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 20c; Lb., 60c.

WHITE SWEDE OR SWEET RUSSIAN—A large variety, nearly white, the best keeper of any white sort, tops small, strap-leaved, roots very large, nearly club-shaped, with small neck. Pkt., 5c; Oz., 10c; $\frac{1}{4}$ Lb., 20c; Lb., 50c.

KELWAY'S PERFECT MODEL (New)—This is probably the most perfect formed Ruta Baga on the market, and also one of the largest and best quality, being largely used in England as a table variety. Individual roots sometimes weigh sixteen pounds and are splendid for feeding purposes. Pkt., 10c; Oz., 15c; $\frac{1}{4}$ Lb., 25c; Lb., 75c.



Liebesapfel

TOMATO

Tomate

Tomatoes thrive on a variety of soils and it is difficult to lay down certain rules for their requirements in this respect. They must have, for best results, favorable conditions throughout the entire early portion of their life, as any check to their growth seriously diminishes the yield. Sow in hotbed six to eight weeks before ready to set out of doors; transplant when all danger from frost is over. The plants are usually set about four feet apart each way. The dwarf or tree tomatoes may be set a little closer than the other sorts.

For years Columbus has been famous for its Tomato Show at the State Fair. We were fortunate enough to win first on display with ours this season. This was the only prize we showed for in this class.

WING'S RED SUNRISE (New)—For years we have worked perfecting this Tomato, and it now fulfills our wishes very nicely. The first fruit ripens the same day as the Earliana, but our tests, carefully conducted, with plots side by side and under identical conditions, give us thirty per cent. greater yield for the season, with thirty per cent. more perfect fruit than we secure with the Earliana. The color equals the Earliana, and in texture we think our new Tomato excels any strain of Earliana that is on market, ours being beautifully solid, flesh free from hard green cores. The color is about the same as Earliana, fully equal to it. It cracks less than the Earliana and is considerably smoother. Pkt., 10c; Oz., 35c; $\frac{1}{4}$ Lb., \$1.00; Lb., \$3.00.

IMPERIAL—A purple variety, very smooth, medium size, reasonably heavy yielding and of very good quality. We consider this Tomato good enough for very critical trade. Pkt., 5c; Oz., 20c; $\frac{1}{4}$ Lb., 60c; Lb., \$2.00.

MATCHLESS—A main crop variety, medium sized, smooth, free from cracks, cardinal color, cuts reasonably well. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.75.

DWARF GIANT—An extremely large fruited purple variety, somewhat on the Ponderosa type, rough but cuts very well. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 75c; Lb., \$3.75.

MAGNUS—A purple fruited, medium sized, globe-shaped variety, well adapted to canning or market purposes. We did not like this variety as first introduced, because it did not yield for us, but our present strain, which has been changed somewhat from the original, made the highest yield of smooth fruit of any variety in our trial grounds this year. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 20c; $\frac{1}{4}$ Lb., 70c; Lb., \$2.25.

DWARF CHAMPION—An early purple fruited variety of true dwarf or tree growth. A popular variety everywhere. The dwarf varieties yield less per plant than larger growing sorts, but are very economical of space. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.50.

EARLIANA—This variety has for years been absolutely indispensable. It is ten days earlier than nearly all other sorts. It yields very well, fruit is reasonably smooth and good flavored. Our strain of this Tomato is the very best obtainable. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.75.

ACME—An early, purple fruited variety, much prized by market gardeners who ship or have home markets, smooth, medium sized, attractive. Our strain is very choice, especially in solidity of flesh. Pkt., 5c; Oz., 20c; $\frac{1}{4}$ Lb., 60c; Lb., \$2.25.

GLOBE—A globe-shaped, purple variety, well liked in the South for shipping north. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 90c; Lb., \$2.75.



Wing's Red Sunrise.

BEAUTY—One of the very best purple varieties, early, a splendid yielder and cuts well. Our strain of this Tomato was among six of the highest yielders of smooth, perfect Tomatoes that were grown in our trial grounds this year. Pkt., 5c; Oz., 25c; $\frac{1}{4}$ Lb., 70c; Lb., \$2.25.

BUCKEYE STATE—Early purple, rather large, smooth and attractive looking. One of the best large varieties. Our strain cuts very well. Pkt., 5c; $\frac{1}{2}$ Oz., 12c; Oz., 20c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.60.

ENORMOUS—A scarlet variety that cuts about like Ponderosa, and is nearly as large, but smoother. An excellent sort for the home table. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 75c.

FAVORITE—A scarlet variety, useful for canning and the home garden, smooth, with few cracks. Pkt., 5c; Oz., 20c; $\frac{1}{4}$ Lb., 60c; Lb., \$2.00.

GOLDEN QUEEN—A splendid yellow variety of medium size, quite smooth, with few cracks, cuts meaty and fine, and a good yielder. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.50.

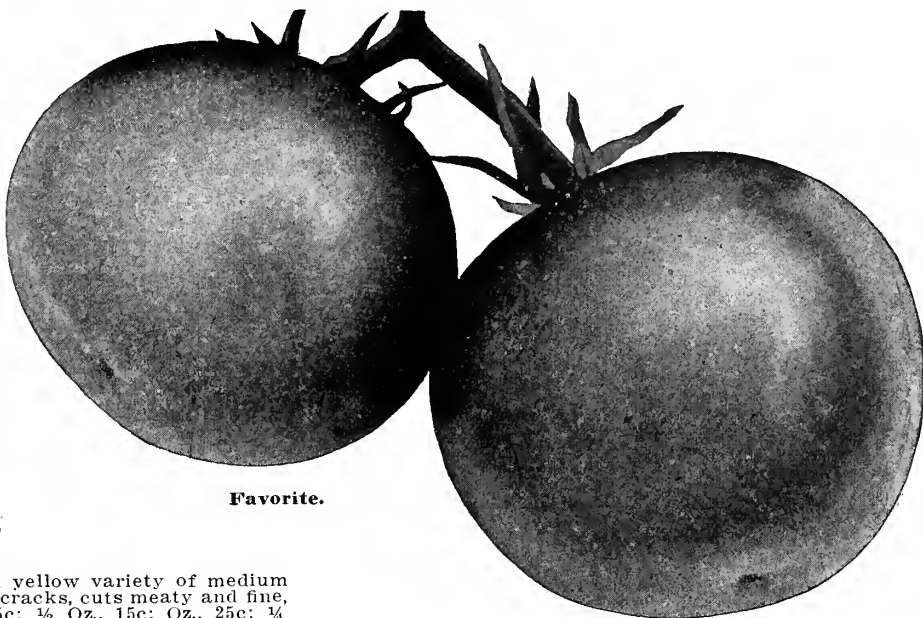
JUNE PINK—An early pink Tomato, ripening ten days later than Earliana, smooth, without the Earliana's hard core. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 80c; Lb., \$2.60.

CORELESS—A bright, red globe-shaped variety, well adapted for canning, reasonably smooth and good sized. Pkt., 10c; $\frac{1}{2}$ Oz., 15c; Oz., 25c; $\frac{1}{4}$ Lb., 80c; Lb., \$2.75.

PERFECTION—A crimson variety, medium sized, rather globe-shaped, of excellent quality, and one that cuts above average; a good canner or shipper. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 20c; $\frac{1}{4}$ Lb., 60c; Lb., \$2.00.

TOMATO GROWING in our trial grounds is one of the most interesting and, incidentally, one of the most expensive operations that we have. Each variety is placed side by side, under identical conditions. At each gathering our men place the fruit of each variety in a separate box, properly marked. Our foreman then grades these Tomatoes into smooth, rough, culls and rot, weighing each one separately, and recording the weight in his stock book. At the end of the season we can tell at a glance the exact number of pounds of each class of Tomatoes produced by every variety.

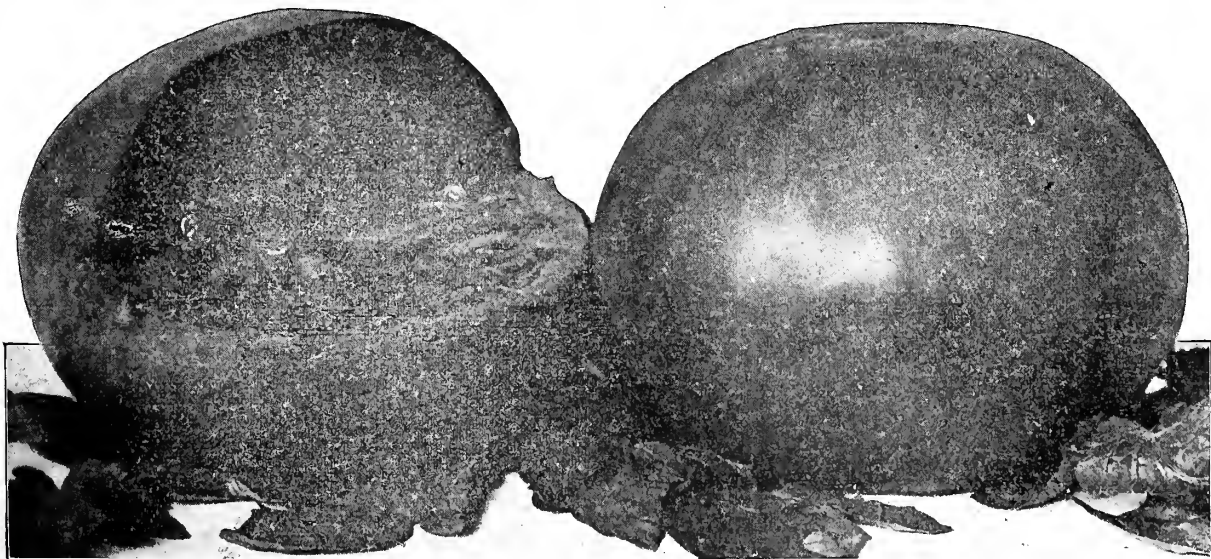
We also have notes as to the time of maturity, general appearance, and as to how each one cuts. In this way we constantly test out our own varieties, and our own strains, as well as those of the other leading seedsmen and growers. After making these careful tests we have no hesitation at all about saying just how good each offered variety is. Then in our breeding grounds the work is carried on as carefully and accurately as in the trial grounds. In each place we carefully compare the choicest strains of the greatest growers we have. In the trial grounds, of course, we can select no seed. In the breeding grounds the best plants furnish us stock seed.



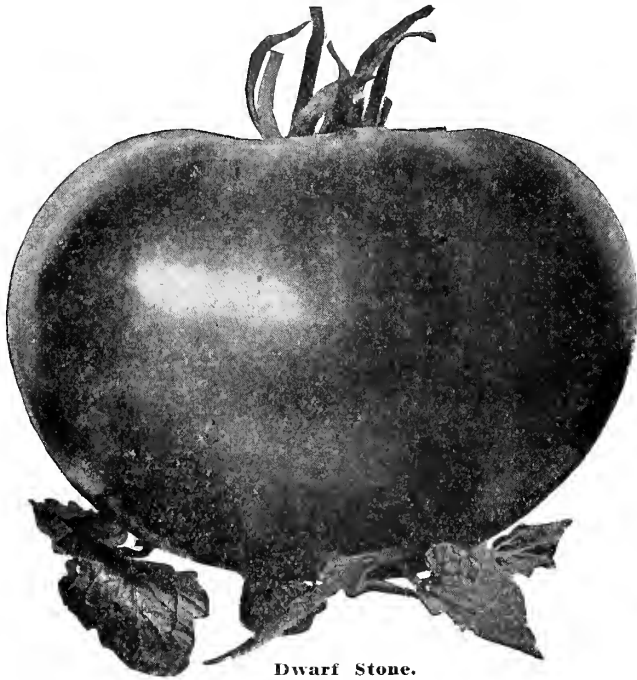
Favorite.

PONDEROSA—This is about the largest fruited variety in our trial grounds, fruit somewhat oblong in form, deep through, ribbed or ridged, purple color. This variety has perhaps the smallest seed cells and the firmest flesh of anything in our grounds. We have used it for years as a slicing variety for the table and could hardly do without it. It is not a good variety for market gardeners or shipping. Pkt., 10c; $\frac{1}{2}$ Oz., 20c; Oz., 30c; $\frac{1}{4}$ Lb., 90c; Lb., \$3.25.

STONE—A solid, late, bright red, main crop variety, used either for canning or slicing. Probably more used for this purpose than any other variety, many canning factories using nothing else. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 20c; $\frac{1}{4}$ Lb., 75c; Lb., \$2.25.



Beauty.



Dwarf Stone.

DWARF STONE—A dwarf vined, very smooth, red Tomato, good sized and cuts very well. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 80c; Lb., \$3.00.

TRUCKER'S FAVORITE—A very choice, large fruited purple Tomato, yielding for us one of six best, the fruit smooth, without cracks and cutting exceptionally well. We can thoroughly recommend this variety. Pkt., 5c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.25.

BONNY BEST—A medium sized variety, extremely smooth and uniform, scarlet color, a splendid sort for shipping, market, for home use or for forcing under glass. Pkt., 5c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.60.

COMET—A scarlet variety, medium sized, round and smooth, excellent either for outdoor use or for forcing under glass. Pkt., 5c; Oz., 25c; ¼ Lb., 80c; Lb., \$2.60.

CHALK'S EARLY JEWEL—About ten days later than Earliana, a good yielder, color scarlet, smooth, with much better core than Earliana. Our strain of this Tomato is of the very best. Pkt., 5c; ½ Oz., 15c; Oz., 25c; ¼ Lb., 75c; Lb., \$2.50.

SMALL FRUITED SORTS

RED CURRANT—Decidedly ornamental, resembles long branches of currants. Pkt., 5c; ½ Oz., 10c; Oz., 15c.

RED CHERRY—Small, about ⅝ inches in diameter, perfectly round and smooth, used for pickles and preserves. Pkt., 5c; ½ Oz., 15c; Oz., 25c.

YELLOW CHERRY—Same as Red Cherry, except in color. Pkt., 5c; ½ Oz., 20c; Oz., 30c.

RED PEACH—Resembles a peach in shape. Skin covered with slight bloom or pubescence, used for preserving or table decoration. Pkt., 5c; ½ Oz., 15c; Oz., 25c.

STRAWBERRY OR HUSK TOMATO—Plants of low spreading growth, fruit enclosed in a husk, sweet flavored, much used for preserving or making pies. Pkt., 5c; ½ Oz., 15c; Oz., 25c.

YELLOW PEACH—Resembles the Red Peach, except in color. Pkt., 5c; ½ Oz., 15c; Oz., 25c.

RED PEAR—Pear-shaped, used for preserves or "Tomato Figs." Pkt., 5c; ½ Oz., 15c; Oz., 25c.

YELLOW PEAR—Same as Red Pear, but yellow in color. Pkt., 5c; ½ Oz., 15c; Oz., 25c.

YELLOW PLUM—Same as Red Plum, excepting color. Pkt., 5c; ½ Oz., 15c; Oz., 25c.



Globe.

HERBS

A SUPPLY OF HERBS will be found very useful and necessary. They may be freshly gathered for flavoring soups, meats, etc., or tied in bunches and dried for use during the winter. In some cases the seed is saved. These can be dried and threshed when ripe. Varieties marked with an asterisk (*) are hardy perennials and need not be replanted except when old plants become exhausted.

ANISE—Seeds aromatic and carminative. Pkt., 5c; Oz., 10c.

BALM—For culinary purposes. Pkt., 5c; Oz., 15c.

BASIL—Sweet. Culinary herb used for flavoring soups, etc. Pkt., 5c; Oz., 10c.

BORAGE—Leaves used as a salad. Pkt., 5c; Oz., 15c.

***CARAWAY**—For sowing. Used in flavoring liquors and bread. Pkt., 5c; Oz., 10c.

***CATNIP**—Has medicinal qualities. Pkt., 5c; Oz., 30c.

CORIANDER—Seeds aromatic. For sowing. Pkt., 5c; Oz., 10c.

DILL—For sowing. Seeds used for flavoring vinegar. Pkt., 5c; Oz., 10c.

***FENNEL**—Sweet. Seeds aromatic; for flavoring. Pkt., 5c; Oz., 10c.

***HOREHOUND**—Has medicinal qualities. Pkt., 5c; Oz., 15c.

HYSSOP—Has medicinal qualities. Pkt., 5c; Oz., 15c.

***LAVENDER (True)**—For oil and distilled water. Pkt., 5c; Oz., 20c.

MARJORAM—Sweet. Is used in seasoning. Pkt., 5c; Oz., 15c.

***ROSEMARY**—Yields an aromatic oil and water. Pkt., 5c; Oz., 35c.

***RUE**—Said to have medicinal qualities. Pkt., 5c; Oz., 25c.

SAFFRON—Is used in medicine, and also in dyeing. Pkt., 5c; Oz., 10c.

SAVORY—Summer. Is used as a culinary herb. Pkt., 5c; Oz., 10c.

***SAGE**—Broad leaf. A culinary herb; also used in medicine. Pkt., 5c; Oz., 15c.

***THYME**—Broad-leaved English. Is used as a seasoning. Pkt., 5c; Oz., 30c.

***WORMWOOD**—Has medicinal qualities. Pkt., 5c; Oz., 20c.

FLOWER SEED COLLECTIONS

COLLECTION OF ANNUAL FLOWERS

20 PACKETS FOR 50 CENTS.

Asters, W. B. Mixed.

Sweet Peas, Spencer Mixed.

Sweet Alyssum.

Calliopsis Mixed.

Corn Flowers Mixed, Centaurea Cyanus.

Sweet Sultan Mixed, Centaurea Imperialis.

Cosmos, Tall Mixed.

W. B. Mixture, Single and Double Pinks.

Gaillardia, Single and Double Mixed.

Mignonette, W. B. Mixed.

Marigolds, Tall French Mixed.

Nasturtiums, Tall Mixed.

Giant Pansies.

Petunia Mixed.

Phlox Drummondii, Tall Mixed.

Annual Poppies, Single and Double Mixed.

Scabiosa, Tall Mixed.

Verbena Mixed.

Zinnia, Tall Double Giant Mixed.

SWEET PEA COLLECTION

We offer the following ten varieties beautiful Spencer Sweet Peas for 50c:

White, King White.

Lavender, Asta Ohn.

Red, King Edward VII.

Maroon, Othello.

Deep Pink, Countess Spencer.

Orange Pink, Helen Lewis.

Pale Pink, Elfrida Pearson.

Primrose, Primrose Spencer.

Light Blue, Flora Norton.

Apricot, Mrs. Routzahn.

COLLECTION OF ASTERS

8 PACKETS FOR 50c.

This collection will give you a pleasing variety of kinds and colors and a long succession of bloom:

Early Branching.

Mikado.

Late Branching.

Royal.

Cardinal.

Rochester.

Violet King.

Peerless Pink.

CHILDREN'S GARDEN MIXTURE

A mixture composed of bright and easily-grown annuals in great variety. This is useful not only for children's gardens but for brightening waste places. Try a packet and you will be surprised at the varieties of flowers it will give you. Do not sow too thickly. Pkt., 5c; Oz., 20c.

IMPORTANT NOTICE

There are a few varieties Flower Seeds of which we have no stocks at present. These have been ordered in Europe. We expect to receive these stocks, but owing to the precarious situation of European shipping, entailing some doubt as to their arrival, we have marked such kinds with an asterisk (*), and offer them subject to our receiving the stock.

We can make no change of varieties in any of our collections.

All Flower Seed prices are postpaid.

FLOWER SEEDS

Our Flower Seeds have been selected from the choicest offerings of the best growers in the United States and Europe. They are not cheap seeds; they are the best quality and measure up to the same standard we maintain in our Field and Garden Seeds.

ASTERS

CULTURE—Seed may be sown outdoors in spring as soon as the ground is warm and dry, or for earlier blooming, may be started indoors or in a cold frame and transplanted to open ground after danger from frost is over. For most varieties, the rows should be 18 inches apart with a distance between plants of 16 inches. In dry weather, a thorough watering two or three times a week is desirable.



Paeony-Flowered.

QUEEN OF THE MARKET—The standard early Aster. Plants 18 inches high, of graceful spreading habit, strong and hardy. The flattish flowers are good sized, borne on long, graceful stems and of a wide range of colors. Profuse bloomer, very good for early cut flowers. If started in the house, will bloom the middle of July; sown outdoors, early in August. **Mixed colors**—Pkt., 5c; $\frac{1}{4}$ Oz., 20c.

BRANCHING COMET—In the Comet type, the petals are long, narrow, gracefully twisted and curled, forming a most artistic flower. Ours is a superior strain of Branching Comet, with strong plants two feet high, bearing many large flowers of great beauty. It is a mid-season variety. **Mixed**—Pkt., 10c; $\frac{1}{4}$ Oz., 20c; $\frac{1}{2}$ Oz., 35c.

GIANT OSTRICH PLUME—A magnificent class, rivalling the Chrysanthemums. Plants branching and of medium height. The flowers are borne on long, slender stems, and are of the Comet type, but much larger, often 4 to 6 inches in diameter, and produced much more profusely. The petals are longer, narrower and more twisted. **Mixed**—Pkt., 10c; $\frac{1}{4}$ Oz., 25c.

THE HOHENZOLLERN ASTERS—The Hohenzollern Aster originated in Germany. We are offering two improved strains that have been worked up by an American grower, one extra early and one late. The Hohenzollern Asters resemble the Mikado, having very large Comet flowers on branching plants. The Early Hohenzollerns come before the Mikado, the flowers being very decorative, on long, slender stems, and the plants 12 to

15 inches high. The Late Hohenzollern blooms after the Mikado, at the same time as the Late Branching. The plants are very robust, the flowers immense and borne on long, stiff stems. **Late Mixed**—Pkt., 10c; $\frac{1}{4}$ Oz., 25c. **Early Mixed**—Pkt., 10c; $\frac{1}{4}$ Oz., 25c.

PAEONY-FLOWERED—Mid-season to late. Remarkable for the brilliant colors. Habit upright, height two feet. The large, beautiful flowers have incurved petals and form almost perfect globes. **Mixed**—Pkt., 10c; $\frac{1}{4}$ Oz., 25c.

VICK'S LATE BRANCHING—Flowers are of extraordinary size, borne on stems 15 to 20 inches long. The plants often cover a space 2½ feet square. They begin blooming about August 15th if sown outdoors, but may be made to bloom earlier by starting seed in the house in March or April. They yield profusely. **Mixed**—Pkt., 10c; $\frac{1}{4}$ Oz., 20c; $\frac{1}{2}$ Oz., 35c. **Separate colors**—White, Shell-Pink, Lavender, Rose, Crimson, Claret, Rosy-Carmine, Purple, Dark Violet, Lady Roosevelt—Each, Pkt., 10c; $\frac{1}{4}$ Oz., 25c.

VICK'S EARLY BRANCHING—The plants are similar to the Late Branching, but the large, perfect flowers come ten days to two weeks earlier. White, Rose, Lavender, Shell-Pink, Purple, Dark Violet—Each, Pkt., 10c.

SINGLE ASTERS

Single Asters are very artistic, fine bedders, very effective grown in masses. **SINGLE ASTERS**—White, Light Blue, Dark Blue, Lavender, Mixed—Each, Pkt., 5c.

KELWAY'S GLARE OF THE GARDEN—Single flowers of rich crimson-scarlet, produced in greatest profusion. Pkt., 10c.



Branching Aster.



Daybreak.

DAYBREAK—The beautiful Daybreak class is early mid-season. Plants upright and bushy, 18 inches high. The flowers are of the globe type, 2½ to 3 inches in diameter, quaint and lovely, produced in such profusion as to almost cover the plants. A valuable bedding variety. We offer **Daybreak**, pale flesh-pink, and **Purity**, snow-white. Either—Pkt., 10c.

VICK'S MIKADO—One of the earliest of the mid-season varieties. Plants medium height, branching habit, long, stiff stems. Great fluffy flowers of the Comet type, with long, narrow, gracefully reflexed petals, of great substance. One of the best for cut flowers; a good keeper and shipper. **White, Rose, Violet, Mixed**—Each, Pkt., 15c.

VICK'S ROCHESTER—A variety of Mikado and the official flower of the city of Rochester, N. Y. A mid-season variety, a little later than the White Mikado and a little earlier than the Late Branching. This is the largest Aster in cultivation. Very fine form of branching Comet. Plants about 18 inches high, unusually vigorous, sometimes with a dozen long, graceful stems to a plant. Flowers exquisite soft lavender-pink from 4½ to 6 inches in diameter. Petals long, narrow, curled and twisted. Pkt., 15c.

VICK'S LAVENDER GEM—Blossoms between Queen of the Market and the mid-season Asters. Plants erect, about 18 inches high, branching close to the ground. Flowers average 4 inches in diameter, of the Ostrich Plume type, with a large proportion of partly tubular florets, giving to the flower the appearance of a ragged Chrysanthemum. In color it is a beautiful pale-lavender, deepening with age. Pkt., 15c.

BRANCHING PEERLESS PINK—Blossoms just a little ahead of the other Late Branching, but has the same characteristics. Perfect double flowers of pale shell-pink, delicate and beautiful. Pkt., 10c.

BRANCHING PEACH BLOSSOM—A splendid Late Branching variety. Plants non-lateral, few long, graceful stems, crowned by very double flowers. Pkt., 10c.

VICK'S PINK ENCHANTRESS—A wonderfully beautiful variety, between mid-season and late. Plants upright, tall and strong. Flowers are as large as the Late Branching, color of the "Pink Enchantress" Carnation. The petals are medium length, broad and loosely arranged, giving a soft and pleasing effect, which adds much to the charm of the delicately colored flowers. The blossoms are very lasting. It is a good variety to grow under glass. Pkt., 20c.

BRANCHING SCARLET GEM—An effective bedding variety. Plants of the Branching type, flowers medium size, the nearest approach to scarlet that has been produced in Asters. A bed of this variety in bloom is very rich and beautiful. Pkt., 10c.

VICK'S AUTUMN GLORY—The last of the Asters to bloom. New, very late Branching Aster, coming after the others are past their prime. Plants large and strong, color pure soft shell-pink. Pkt., 20c.

CREGO PINK—Beautiful late Aster of the Hohenzollern Comet type. The plants have the size of the Late Branching, and the same habit, growing two to two and a half feet high. Flowers 4 to 5 inches across, long, beautifully curled petals. The color, which is the distinctive feature, is different from that of any other Aster, and is best described as pure shell-pink. Everyone should grow this Aster, which is considered by some growers the most beautiful of all. Pkt., 10c.

SHELL-PINK ROCHESTER—This new Aster is similar to the original Rochester in habit and type of flower, but in color it is a lovely shell-pink. Pkt., 25c.

KING ASTERS

A very striking and handsome class. The King Asters bloom with the Late Branching, and the plants are similar in habit, but have exceptionally long stems; they attain a height of 2½ feet. The very large flowers are distinct, and different from any other variety, being composed of long, narrow petals folded lengthwise, giving a quilled appearance to the flower. They are of great substance, and last longer than any other Aster.

VICK'S VIOLET KING—Is rich violet-purple, center petals twisted into a strong whorl. Pkt., 10c.

VICK'S ROSE KING—Differs from the Violet King in color only, being brilliant rose. Pkt., 10c.

VICK'S WHITE KING—Differs from the Rose and Violet in being upright in habit, while the petals are not quite so strongly folded, giving to the flower a softer appearance. Pkt., 10c.

VICK'S SHELL-PINK KING—New. Lovely shell-pink flowers. Pkt., 25c.

VICK'S CRIMSON KING—New. Flowers of rich crimson. Pkt., 25c.



Vick's Pink Enchantress.



Ageratum.

ROYAL—A charming new Aster, early mid-season, coming soon after Queen of the Market and ahead of the Late Branching. The plants are very graceful, strong and vigorous, resembling the Late Branching, but not so tall, branching close to the ground. The flowers are of the size of the Late Branching. The petals are broad, incurved or shell-shaped, giving a lovely effect of shading. This is considered by many to be the best general purpose Aster, its vigor enabling it to stand conditions that would be sure death to other kinds. **White, Pink, Lavender Mixed**—Each, Pkt., 10c.

CARDINAL—A beautiful Aster of the branching type, with rich, deep scarlet flowers. Pkt., 10c.

VICTORIA—Old standard early mid-season variety, free blooming and excellent for bedding. Plants pyramidal in habit, two feet high. Large, flat flowers resembling a double Dahlia, with broad, flat petals curving outward. **37 Mixed**—Pkt., 10c.

W. B. MIXTURE TALL ASTERS—This mixture is composed of the best tall Asters and is designed for those of our customers who prefer mixed seed to the separate varieties. It contains a great many varieties and a wide range of color, and will afford a wealth of beautiful blooms. Pkt., 10c; ½ Oz., 50c.

COLLECTION OF ASTERS

8 PACKETS FOR 50c.

This collection will give you a pleasing variety of kinds and colors, and a long succession of bloom.

Early Branching,

Mikado,

Late Branching,

Royal,

Cardinal,

Rochester,

Violet King,

Peerless Pink.

ACROLINIUM

ROSEUM—A very beautiful everlasting. The Daisy-like flowers are of the purest softest rose with yellow center. If cut in the bud state, the flowers may be dried and kept for winter bouquets. Two feet. Sow outdoors in spring. Pkt., 5c.

ALBO—Same as above but with white flowers. Pkt., 5c.

ARCTOTIS GRANDIS

BLUE-EYED AFRICAN DAISY—A very attractive annual, fine for cutting and easily grown. Plants 2½ to 3 feet tall, with silvery, deeply cut foliage. Daisy-like flowers 2½ inches across, white with sky-blue eye surrounded by yellow zone, reverse side of petals lilac. This pretty plant deserves to be grown more frequently than it is. Sow outdoors in spring. Pkt., 10c.

AGERATUM

Hardy annual. One of the best summer blooming plants, furnishing some of the finest blues. They begin to flower early and continue until heavy frost. The dwarf varieties are among the best bedding plants. Sow under glass early, or outdoors later. They do well in hot sun and can stand poor conditions.

AGERATUM MEXICANUM—Plants 1½ to 3 feet tall, flowers soft light blue. Pkt., 5c; ¼ Oz., 10c.

BLUE PERFECTION—The deepest Blue Ageratum. Plants 9 inches tall. Splendid clusters of flowers, forming dense half globes. Pkt., 5c; ¼ Oz., 25c.

LITTLE BLUE STAR—A charming new variety. The plants are not over 4 or 5 inches in height, and the small light blue flowers are produced in great profusion. Pkt., 10c.

SWEET ALYSSUM

Indispensable for borders and useful for baskets and rock work. Thrifty and healthy, a continuous bloomer until severe frost. For borders sow thickly in open ground. For winter bloom, sow late in August.

ALYSSUM MARITIMUM (Sweet Alyssum)—Trailing habit, one foot in length. Fragrant white flowers. Pkt., 5c; ½ Oz., 15c; Oz., 25c.

LITTLE GEM—Compact growth, 6 inches high. Pkt., 5c; ½ Oz., 20c; Oz., 35c.

CARPET OF SNOW—This is very beautiful. Is quite dwarf and forms a close mat completely covering the ground. Pkt., 10c; ¼ Oz., 25c; ½ Oz., 40c; Oz., 75c.

AMMOBIUM

A very pretty white Everlasting, with small globe-shaped flowers. It does best in sandy soil. 2½ feet. Sow outdoors in spring. Pkt., 5c.

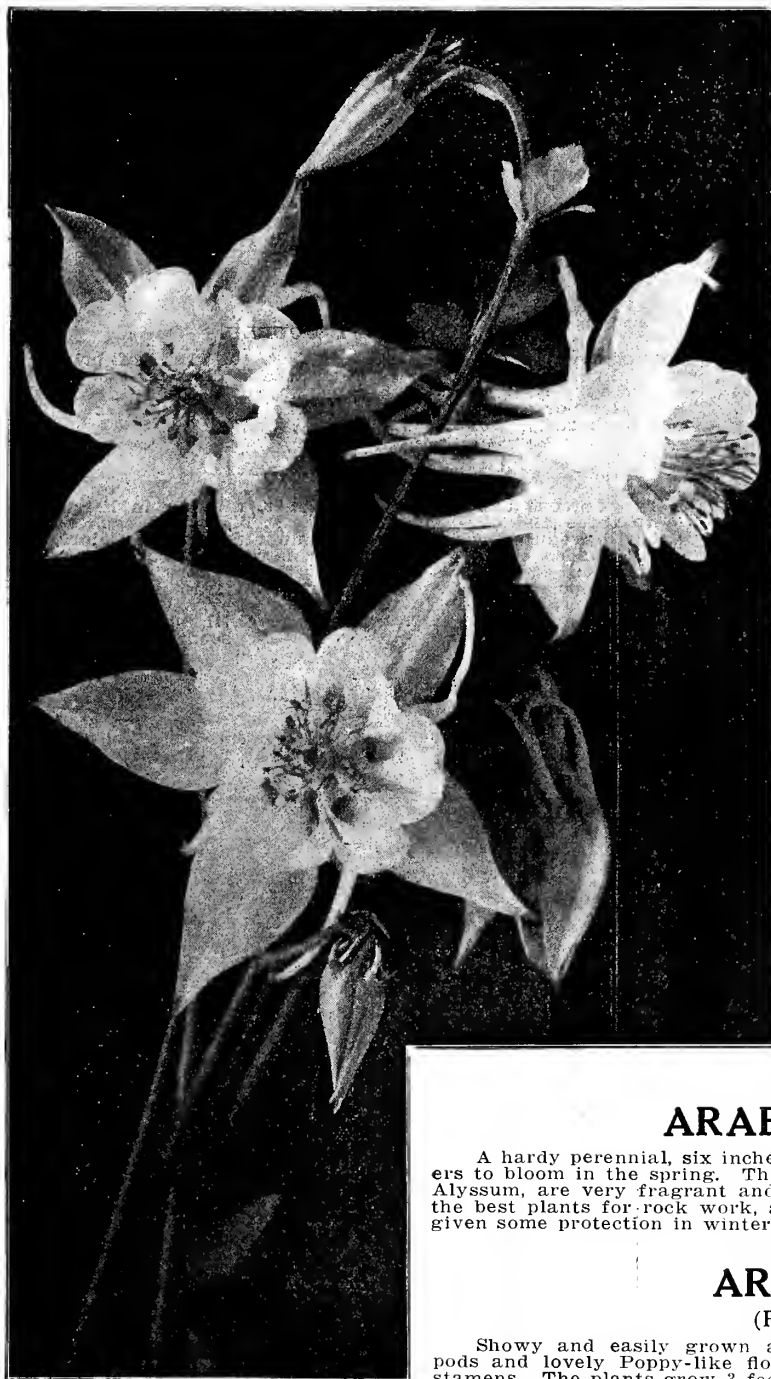
ANTIRRHINUM (Snapdragon)

Fine, old-fashioned flower, hardy perennial, blooming the first year from seed. It is best treated as an annual. The rich spikes of brilliant, curiously shaped flowers are borne well above the glossy leaves. For early flowers, sow under glass in warm, dry, moderately enriched soil. Sow outdoors in spring for summer blooming. Average height 1½ feet.

TALL VARIETIES—**Alba Rosea**, white with pink lip; **Firefly**, scarlet with white throat; **Queen Victoria**, superb pure white. **Striped Mixed**—Each, Pkt., 10c. **Tall Mixed**—Pkt., 10c; ¼ Oz., 30c; Oz., \$1.00. **Dwarf Mixed**—Pkt., 5c; ¼ Oz., 20c.



Antirrhinum.



Aquilegia.

***AURICULA** (Primula Auricula)

Beautiful little early spring-blooming garden Primroses. Rich velvety blossoms in yellow, mauve, maroon, etc. Sow seeds outdoors where they can be kept shaded and watered. **Pure White**—Pkt., 25c. **Striped Mixed**—Pkt., 25c. **Dwarf Mixed**—Pkt., 25c.

BALLOON VINE (Cardiospermum)

A graceful, quick-growing annual climber, with tiny white flowers and pretty foliage, followed by curiously inflated seed vessels. The foliage is pretty in bouquets, and children find great amusement in the pods; 6 feet. Pkt., 5c; Oz., 20c.

AQUILEGIA

(Columbine)

An elegant border plant. Hardy perennial. It forms large clumps and blooms profusely through May and June. The beautiful and graceful pendant flowers are borne well above the handsome foliage, which never becomes unsightly. The seeds are of rather slow germination, and should be sown in open ground early in the spring.

COERULEA (Rocky Mountain Blue Columbine)—One of our most beautiful native flowers. Sepals deep blue; petals white; 3 feet. Pkt., 10c.

ROSE QUEEN—This splendid novelty has large, long-spurred flowers of rose and white with yellow anthers. Pkt., 15c.

CHRYSANTHEA—This is also of a long spurred type and has clear golden-yellow flowers. It blooms for a long time; 3 feet. Pkt., 15c.

***MRS. ELLIOTT'S LONG SPURRED HYBRIDS**—This strain surpasses all others. The foliage is small and graceful, the flowers very large with long spurs and of fine colors. Pkt., 25c.

CLEMATAQUILA OR SPURLESS AQUILEGIA—(See illustration on page 72.) This is a new strain and well worth including in your collection. It has all the delicate grace of the other Aquilegias. The Anemone-like flowers are spurless, and are produced in shades of blue, pink, purple, black, lavender, bluish, white, rose, pure white and violet. Pkt., 25c.

SINGLE MIXED AQUILEGIA—All colors. Pkt., 5c; ¼ Oz., 10c.

DOUBLE MIXED—Pkt., 5c; ¼ Oz., 15c.

ADLUMIA CIRRHOSA

(Allegheny Vine)

A graceful, hardy biennial climber, with finely cut foliage and oddly shaped pale pink flowers. It loves the shade and cannot stand the hot sun. Pkt., 10c.

ARABIS ALPINA

A hardy perennial, six inches in height. It is one of the earliest flowers to bloom in the spring. The blossoms, which resemble those of Sweet Alyssum, are very fragrant and completely cover the plant. It is one of the best plants for rock work, and is of the easiest culture. It should be given some protection in winter. Pkt., 5c.

ARGEMONE

(Prickly Poppy)

Showy and easily grown annual with ornamental foliage and seed pods and lovely Poppy-like flowers, snow-white with a mass of golden stamens. The plants grow 3 feet tall and are very bushy. Fine for massing. Pkt., 10c.

BARTONIA AUREA

This is a very pretty flowering plant belonging to the Gentian family. It is a hardy annual 12 inches in height. The flowers resemble the Wild Rose in shape and are bright, clear, golden-yellow in color. Pkt., 5c.

BRACHYCOME (Swan River Daisy)

Dainty, pretty little annuals, growing about 12 inches high, covered with countless small star-like flowers. A fine little edging plant. **Blue, White, Rose, Mixed**—Each, Pkt., 5c; ½ Oz., 10c.



Balsam.

BALSAM

Choice seed is essential for fine Balsams, and ours is of the best quality. We offer the finest double-flowered only. The flowers are large and elegant, of most charming shades of pink, lilac, scarlet, crimson and rose, self-colored and spotted. The plants should be given plenty of room, 12 to 18 inches apart. They like hot sun, rich soil and plenty of water.

DOUBLE CAMELLIA-FLOWERED—White, Rose, Scarlet, Mixed, Pink. Pkt., 5c; $\frac{1}{4}$ Oz., 25c.

CALLIOPSIS (Annual Coreopsis)

This is one of the daintiest and prettiest annuals that can be grown. The graceful plants are of slender growth, with finely cut foliage. The daisy-like flowers are of warm and harmonious tints of yellow, rich red-maroon and brown. Sow thinly in the spring where the plants are to remain. They last a long time when cut.

GOLDEN RAY—Flowers yellow with dark purple-brown center. Pkt., 5c.

CORONATA—Bright yellow; very fine. Pkt., 5c.

TIGER STAR—New. Dark brown and yellow, richly tigered flower, the petals of which are twisted like the Cactus Dahlia. Compact growth, 8 inches high. Strikingly handsome. Pkt., 10c.

RADIATA—Also one of the new kinds; dark brown, very rich and beautiful flowers. Pkt., 10c.

MIXED ANNUAL—All of the best varieties in choicest mixture. Pkt., 5c; Oz., 20c.

COREOPSIS

LANCEOLATA GRANDIFLORA—Beautiful, hardy perennial, one of the best, blooming the first year from seed if sown early. Plants two to three feet tall. Graceful flowers of purest golden-yellow, somewhat resembling the Cosmos, and borne on long, slender stems, from June until late autumn. Pkt., 10c; $\frac{1}{4}$ Oz., 20c.

CHRYSANTHEMUMS

Annual Chrysanthemums bloom freely from early summer until fall. Perennial varieties in the fall only.

MIXED ANNUALS

SINGLE AND DOUBLE.

Plants average one and one-half feet. Flowers of bright and beautiful colors, very showy and effective for borders and cut flowers, and very useful for brightening shrubberies and drives. Sow under glass or in open ground. To make compact, bushy plants, pinch back early growth. Pkt., 5c; $\frac{1}{4}$ Oz., 15c.

JAPANESE HYBRIDS

Very gorgeous and magnificent plants, ranging in height from two to three and one-half feet. If not disbudded each separate plant will produce from two to four hundred flowers. Colors, white and all shades of lemon, yellow, orange, pink, rose, bronze and rich crimson. Sow seed under glass in February or March, keep as cool as possible and harden off in cold frames before setting out in open ground. Treated in this way they will begin blooming the latter part of August and continue until quite heavy frosts; light frosts do not harm them. Pkt. of 100 seeds, 15c.

SHASTA DAISY

Very fine, perennial, blooming the second year from seed. The Daisy-like flowers of glistening white are borne on good stiff stems two feet long. Soak seed in warm water before planting. Pkt., 10c.



Clematis. (See page 71.)

CAMPANULA

A fine, old-fashioned, hardy flower. Some of the most gorgeous effects of the garden are obtained by the use of it in masses. Sow the seeds outdoors in spring. The biennial kinds may be wintered in cold frame, or outdoors if on well drained soil and given some protection by rough litter, being careful not to cover the crowns too closely. After the biennials are done blooming, the plants become unsightly and must be pulled up.

CANTERBURY BELL (*Campanula Medium*)—This is one of the loveliest flowers of the hardy garden. It is a biennial *Campanula*. The charming bell-shaped flowers are borne on tall spikes. There are double varieties, which are curious, but are not so beautiful as the single bell and lack its delicate grace. **Single, Blue, White, Rose, Striped, Mixed**—Each, Pkt., 5c. **Double, Blue, White, Rose, Mixed**—Each, Pkt., 5c.

CUP AND SAUCER (*Calycanthemum*)—This is a form of the Canterbury Bell with a large saucer at the base of the flower, giving a resemblance to a cup and saucer. It comes in the colors of the Canterbury Bell. **Mixed**—Pkt., 5c.

PERSICIFOLIA (*Peach-Leaved Bell Flower*)—Hardy perennial, with superb blue and white flowers. Two to four feet in height. June and July. Pkt., 10c.

PYRAMIDALIS (*Chimney Bell Flower*)—Hardy perennial. Tall, erect, pyramidal in form. Spikes of blue and white three to four feet long. A magnificent plant for decorative work if taken up and potted. Pkt., 10c.

CALENDULA

(Pot Marigold)

Hardy annual, one foot high, of easiest culture. Flowers somewhat resemble Double Daisies, and show every shade of yellow. The colors range from ivory to deep orange. The plants are somewhat coarse. They bloom all summer and fall until cut down by frost, and are very cheerful in late autumn. Sow in open ground in the spring. **Mixed**—Pkt., 5c; Oz., 20c.



Campanula Pyramidalis.



Canterbury Bell.

CANDYTUFT

Well known plant useful for bedding. Will grow anywhere, but needs plenty of moisture. Sow outdoors in April.

GIANT HYACINTH-FLOWERED—White, annual. One foot. Large trusses of pure white flowers. Pkt., 10c; ¼ Oz., 15c; ½ Oz., 25c; Oz., 40c.

MIXED ANNUAL SORTS—Pkt., 5c; Oz., 15c.

SEMPERVIRENS—A very pretty little evergreen plant, with white flowers. Useful for rockeries. Hardy perennial. One foot. Pkt., 10c.

CARNATIONS

Carnations as beautiful and fragrant as greenhouse varieties, although not so large, may be grown from seed, and will bloom the first year. Seeds may be sown in spring under glass or outdoors.

GIANT MARGARET MIXED—A very vigorous race, semi-dwarf, free-blooming, large fragrant flowers in many colors—white, rose, pink, crimson, yellow, striped and spotted. Pkt., 10c.

CHAUBAUD PERPETUAL—Neat and symmetrical in habit, constant and profuse bloomer. Elegant and very sweet flowers. Pkt., 15c.

MAJOR MCKINLEY—Rich dark red. Pkt., 10c.

CATCHFLY (Silene)

A very bright and showy early-flowering hardy annual, bearing its heads of pink, white and rose flowers in the greatest profusion. Seed may be sown outdoors in spring. **Mixed**—Pkt., 5c.

CELOSIA

Well known annual. Seed may be started in the house and transplanted or sown directly in the ground.

CRISTATA, DWARF MIXED (Cockscomb)—These make fine pot plants. The colors are crimson, scarlet, rose, yellow and orange. Pkt., 5c.

CRISTATA, TALL MIXED (Cockscomb)—In all colors. Pkt., 5c.

PLUMOSA (Ostrich Plume)—Very beautiful plants. They grow two and one-half to three feet tall and form large pyramidal bushes surmounted by graceful plumes of crimson and orange. **Crimson, Orange.** Each, Pkt. 5c.

CENTAUREA

This is one of the very best hardy annuals for cutting, of simplest culture, a free bloomer, with attractive flowers on long stems. Sow in open ground in spring. They self-sow very freely.

CENTAUREA IMPERIALIS (Sweet Sultan)—Plants two to three feet high, strong and bushy. The thistle-like flowers are two to three inches across, finely fringed. They come in white and soft shades of yellow, lilac, rose, pink and purple. **Mixed**—Pkt., 5c; $\frac{1}{4}$ Oz., 25c.

SUAVOLENS (Yellow Sweet Sultan)—Large, fragrant, clear yellow flowers. Pkt., 5c.

AMERICANA—Very fine annual. Plants three feet in height. The beautiful thistle-like flowers are of a pleasing shade of soft mauve and are very good for cut flowers. Pkt., 10c.

CENTAUREA CYANUS (Corn Flower, Ragged Sailor, Bachelor's Button)—Old and well-loved annual plants two to three feet high and very beautiful. Flowers are white, pink, rose, lavender and purple. **Mixed**—Pkt., 5c; $\frac{1}{2}$ Oz., 15c.

EMPEROR WILLIAM (Corn Flower)—Deep rich blue. Pkt., 5c; $\frac{1}{2}$ Oz., 10c.

MIXED IMPERIALIS AND CYANUS—A mixture of all the annual Centaurea. Pkt., 5c; $\frac{1}{2}$ Oz., 20c.

CLARKIA

One of the prettiest of annuals. The flowers are so bright and dainty and produced in such profusion that a bed of them is a beautiful sight. They last a long time in water. The plants are branching and average one and one-half feet in height. Sow outdoors in spring. Pkt., 5c.

COBAEA SCANDENS

A handsome and rapid growing annual climber. Dark green foliage, large bell-shaped flowers borne freely on graceful stems. A very vigorous grower, attaining a height of twenty to thirty feet in a season. Seed should be started in the house very early. **White, Violet**—Each, per Pkt., 5c.

COSMOS

Tall growing annual with large flowers of wonderful beauty and grace, and feathery green foliage. The flowers are unsurpassed for cutting and last a long time in water. To be sure of obtaining flowers before frost, start seed in the house in March or April. They do best in full sun and on sandy soil or soil that is rather poor. The early flowering Cosmos grow four feet tall; the late blooming kinds, ten feet.

EARLY FLOWERING COSMOS

DAWN—Beautiful and delicate flowers, white flushed rose. Pkt., 5c; $\frac{1}{4}$ Oz., 15c.

MIXED—White and shades of rose and crimson. Pkt., 5c; $\frac{1}{4}$ Oz., 15c.



Cornflower.

LATE FLOWERING COSMOS

LADY LENOX—Lovely shell-pink flowers of great size and substance, borne on unusually long stems. Pkt., 10c; $\frac{1}{4}$ Oz., 20c.

CRIMSON RAY—New and quite distinct. The petals are narrow and fluted. Color, a rich velvety crimson. Pkt., 10c.

WHITE—Pkt., 5c; $\frac{1}{4}$ Oz., 10c.

PINK—Pkt., 5c; $\frac{1}{4}$ Oz., 10c.

CRIMSON—Pkt., 5c; $\frac{1}{4}$ Oz., 10c.

MIXED—Pkt., 5c; $\frac{1}{4}$ Oz., 10c.

CYPRESS VINE (Ipomoea Quamlocit)

Well-known annual climber, with finely cut, delicate foliage, small star-shaped flowers of white and crimson. 10 feet. Soak the seeds in hot water before planting. Sow in spring where the plants are to remain and keep the soil quite moist. **White, Crimson**—Each, Pkt., 5c; $\frac{1}{2}$ Oz., 15c. **Mixed**—Pkt., 5c; $\frac{1}{2}$ Oz., 10c.



Cosmos.

DELPHINIUM (Larkspur)

The Delphiniums give us our richest and most brilliant blues. Among them are found our grandest perennials and many very pretty annuals.

ANNUAL VARIETIES

Seed may be sown in the open ground in spring or fall. The annual varieties reseed very freely. They do best in cool, moist soil, the richer the better. It is impossible to fertilize too heavily for Larkspurs.

EMPEROR—Branching plants, 2 feet tall, bearing ten to twenty slender spikes of bright and showy flowers in pink, blue and white. **Mixed**—Pkt., 5c; ¼ Oz., 10c.

TALL ROCKET—Plants grow 2 to 2½ feet and throw up a long single column of bloom. **Mixed**—Pkt., 5c; ¼ Oz., 10c.

DWARF ROCKET—Grows about one foot tall. **Mixed**—Pkt., 5c; ¼ Oz., 10c.

GIANT HYACINTH-FLOWERED—This is extremely beautiful. The delicate and lovely flowers resemble double Hyacinths, and are borne on long spikes. **Mixed**—Pkt., 5c; ¼ Oz., 15c.

PERENNIAL VARIETIES

Stately and noble plants, with spikes 6 to 8 feet high, clothed with the beautiful blue flowers for half their length. Sometimes forty spikes are produced on one plant. The foliage resembles that of the Acanthus, the model for the capitals in Corinthian architecture.

Anyone can have a bed of Delphiniums; they are easily started, are hardy as rocks, and increase in size and beauty from year to year. Seed



Double Daisies.

may be started in boxes or in the open ground in the spring, and the plants will bloom the second year, but will not be at their best until the third. Plants should be set from 2½ to 4 feet apart. Soil should be deep, rich and mellow. Delphiniums are huge feeders, and it is of no use to try to grow them unless they are well supplied with plant food. They bloom from the end of May to August. When the first flowers fade, the plants should be cut to the ground, and no seed allowed to form. A second crop of fresh green foliage will then start from the root and cover the bed; flower spikes will also be produced, although they will not be very large.

Messrs. Kelway & Son, of Langport, England, have done wonderful things with this plant, and their Delphiniums are the most beautiful in the world. Our seed comes direct from them. As the named varieties do not come true from seed, we offer nothing but the mixed seed.

KELWAY'S HYBRIDS in finest mixture. Pkt., 25c.

DATURA

(Angel's Trumpet)

Very showy annuals. Large branching plants 3 to 5 feet high with large trumpet-shaped flowers. Fine for borders or greenhouse plants. For early blooming, sow seed in hotbed and transplant three feet apart each way. Seed may also be sown outdoors when danger of frost is over. Roots can be kept during the winter in cellars.

CORNUCOPIA (Horn of Plenty)—Immense flowers, creamy white with deep purple. Pkt., 5c.

GOLDEN QUEEN—Rich golden-yellow. Fine border plant. Pkt., 5c.

WHITE—Pkt., 5c.

MIXED—Pkt., 5c.

DOUBLE DAISIES

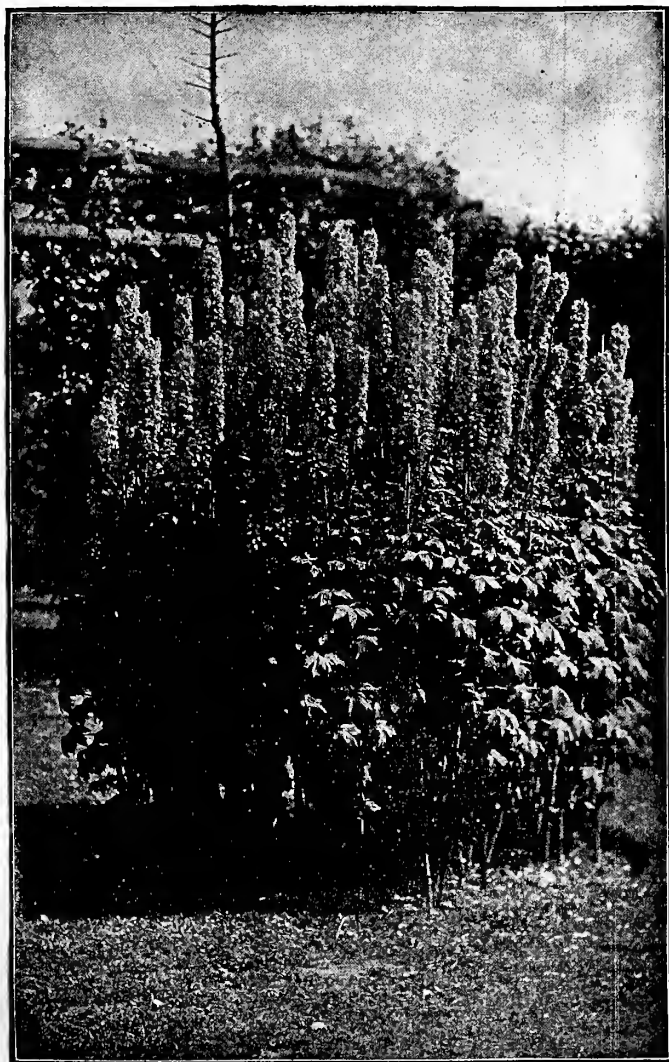
(Bellis Perennis)

Charming little perennials, growing 6 inches tall. They may be sown in the house in February or March. Sow in light, rich soil, covering the seeds to about three times their own thickness and pressing the soil firmly over them. Keep in a warm window, hotbed or greenhouse. When they are well out of the seed leaf, they may be transplanted to new boxes and set out in the open ground when danger from frost is over, or they may be sown outdoors in August or September, and either wintered in cold frames and transplanted to their permanent positions in spring, or left outside with some protection of straw or litter. They make very bright borders and can be used very nicely in beds of spring-blooming bulbs. They love the shade.

LONGFELLOW—Dark rose. Pkt., 10c.

SNOWBALL—Beautiful pure white. Pkt., 10c.

DOUBLE MIXED—Pkt., 10c.



Kelway's Hybrids (A Single Plant).

DIANTHUS (Pinks)

OLD-FASHIONED flowers that have never been surpassed for beauty and refinement. The biennial Chinese and Japanese varieties will bloom the first year from seed, go through the winter and flower early the next summer. They are brilliant and beautiful grown in masses. Seed should be sown outdoors early in the spring when ground is cool.

CHINENSIS (China or India Pink)—Of old gardens. Double flowers of blended white, crimson, maroon, pink, rose, scarlet. **Mixed**—Pkt., 5c; ¼ Oz., 15c.

HEDDEWIGII (Japan Pink)—Large and brilliant flowers of white, rose, crimson, maroon, scarlet; perfectly formed, beautifully spotted, striped and ringed. **Choice Double Mixed**—Pkt., 5c; ¼ Oz., 20c.

SNOW QUEEN—Best double white. Pkt., 10c.

MOURNING CLOAK—Large double flowers of deepest mahogany, almost black, edged white. Pkt., 5c.

***LUTEOLUS**—New, double flowers of light yellow. While yellow has long been represented in Carnations, it is a new color in annual Pinks. Pkt., 15c.

SINGLE JAPANESE PINKS—Mixed, all colors. Pkt., 5c; ¼ Oz., 10c.

CRIMSON BELLE—Large single flowers of dark blood-red. Pkt., 5c.

QUEEN OF HOLLAND—Single pure white flowers. Pkt., 5c.

LACINIATUS—Immense flowers, deeply fringed. **Double Mixed**—Pkt., 5c. **Single Mixed**—Pkt., 5c.

VESUVIUS—Bright orange-scarlet. Large single flowers about 2 inches in diameter, with fringed petals. Very striking and beautiful. Pkt., 10c.

IMPERIALIS (Imperial Pinks)—Strong bushy plants. Pkt., 5c.

PLUMARIUS (Clove or Grass Pinks)—The sweet May Pink of old gardens. Hardy perennial. Of spreading habit, 10 inches high, beautiful silvery-green foliage, delicate flowers of white, soft pinks and crimsons, with delicious clove-like fragrance. **Double Mixed**—Pkt., 10c. **Single Mixed**—Pkt., 5c.

W. B. MIXTURE ANNUAL PINKS—This is a splendid mixture, and if you do not care to purchase separate varieties, we recommend it to you. We mix this ourselves and it is composed of the varieties listed above as well as many other named sorts. Pkt., 10c.



Japan Pinks.

DICTAMNUS

Dictamnus or Fraxinella is a very ornamental perennial plant. The foliage is clean and pretty, and the viscid seed pods have a peculiar and delightful fragrance. It is sometimes called the Gas Plant, and is said to give forth gas which will ignite if a lighted match is held close to the plant. It should be left undisturbed for years in the same place.

WHITE—Pkt., 5c.

RED—Pkt., 5c.

DIMORPOTHECA AURANTIACA

GOLDEN ORANGE DAISY, or Golden Star of the Veldt—A new and showy annual from South Africa. It is very easily grown and a free bloomer. Its Daisy-like flowers, 2½ to 3½ inches across, are of lustrous orange-gold. Height, one foot. Sow outdoors in spring. Pkt., 10c.

AURANTIACA HYBRIDS—These hybrids resemble the parent in plant and habit, but the flowers are pure white, bluish-white, sulphur, lemon, orange, salmon, many of them zoned with another color. **Mixed**—Pkt., 10c.

DOLICHOS (Hyacinth Bean)

Well known climber, rapid growing and free-flowering, very useful for screens.

PURPLE SOUDAN—A very decorative climber. The stems are purple, while the flowers are bright rose. Pkt., 5c.

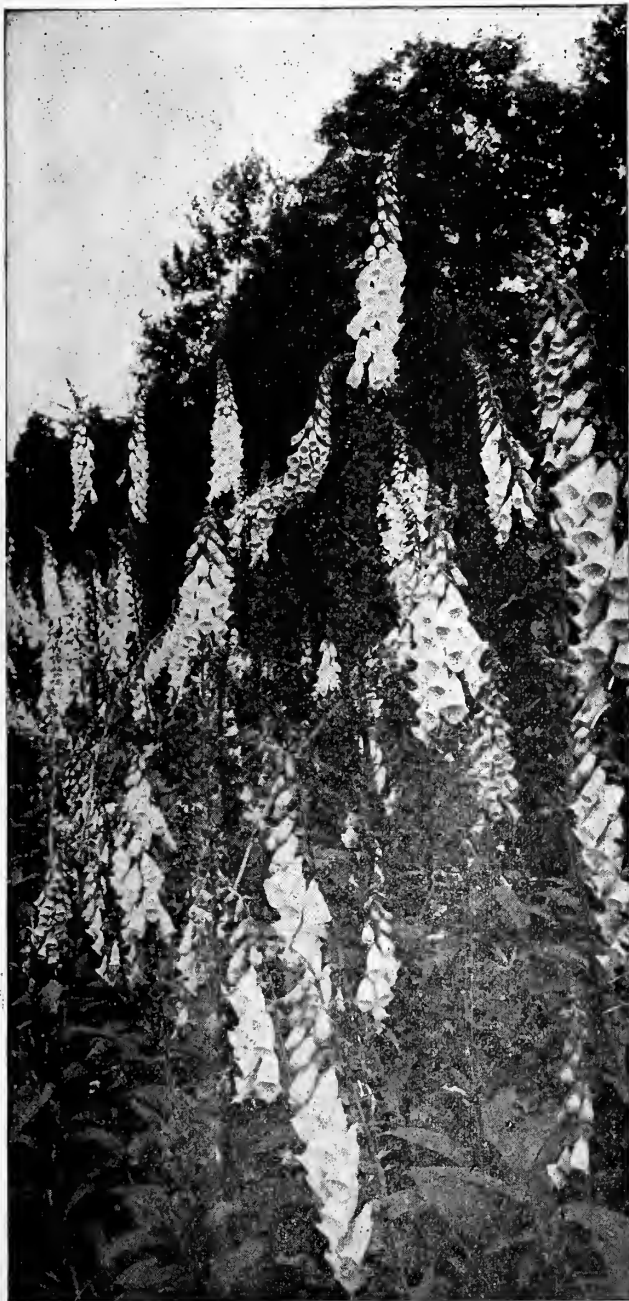
WHITE BUSH—This is a bush variety of the Hyacinth Bean, growing from 18 to 30 inches tall. The long flower spikes are creamy-white. It is a very ornamental plant and has a long blooming season, being constantly in flower from the middle of July until frost. Pkt., 10c.

DAYLIGHT—This is a Japanese variety; very beautiful, with large white flowers. Pkt., 5c.

DIGITALIS (Foxglove)

THE FOXGLOVE IS a handsome, dignified, hardy perennial. The flower spikes 2 to 3 feet long are composed of wonderfully beautiful thimble-shaped blossoms in soft shades of lavender, purple, rose and yellow, tigered and spotted. They make a splendid background for lower plants. Foxgloves with Sweet Williams in the foreground form a beautiful picture. They are most satisfactory when treated as biennials. Sow the seed every year in rich deep soil. Seeds must be kept moist until they germinate.

DIGITALIS MONSTROSA—This is the best strain of this splendid perennial. Flowers are very large and beautiful, the top one being Campanula-shaped. All colors, mixed. Pkt., 5c; ¼ Oz., 30c.



Digitalis.

ESCHOLTZIA (California Poppy)

THE STATE FLOWER of California. A bright free-flowering annual of low spreading habit, finely cut silvery foliage, rich Poppy-like flowers, of the easiest culture. Sow the seed in spring or late in autumn where the plants are to remain, as they do not bear transplanting well. Thin 6 to 8 inches apart. The average height is 1 to 1½ feet.

GOLDEN WEST—Flowers bright yellow and orange, pencilled and blotched. Pkt., 5c; ¼ Oz., 15c.

CARMINE KING—Deepest crimson. Pkt., 5c.

ROSE QUEEN—Splendid. Pkt., 10c.

CALIFORNICA—Large and beautiful pale-yellow flowers. Pkt., 5c; ½ Oz., 15c.

SINGLE MIXED—Brilliant colors only. Pkt., 5c; Oz., 15c.

DOUBLE MIXED—Brilliant colors only. Pkt., 5c; ¼ Oz., 15c.

GAILLARDIA

(Blanket Flower)

Showy plants which will grow anywhere and under any conditions. Good for bedding and cut flowers. Shades of red and yellow predominate. Sow seed in the spring in open ground. They like best a good light soil and plenty of sun, but are not at all particular as to conditions. Flowers are produced from July until freezing weather.

ANNUAL VARIETIES

PICTA SINGLE MIXED—Brilliant Daisy-like flowers of crimson and yellow. Pkt., 5c; ¼ Oz., 15c.

LORENZIANA DOUBLE MIXED—Double flowers with tubular florets, in shades of orange, claret, red and yellow. Pkt., 5c; ¼ Oz., 20c.

PERENNIAL GAILLARDIA

***KELWAY'S EXHIBITION**—Splendid hardy perennials.

Both plants and flowers larger than the annuals. Semi-double, in shades of orange, scarlet, crimson and yellow, with brown centers. Plants 2 feet in height. Enormous flowers and very stout habit. Our strain is quite distinct from the old kind and is of the best quality. They are fine for cutting, lasting a long time in water. The Gaillardia is one of the few perennials that are constantly in bloom. Pkt., 25c.

GEUM

MRS. BRADSHAW—One of the finest additions to the hardy border ever introduced. The plants are thrifty, 1 to 2 feet in height. The flowers are 2½ to 3 inches across, nearly double, with waved petals, brilliant scarlet in color, borne on long stems. They are fine for cutting, retain their color in hot sunshine and are borne in profusion throughout the whole summer. Seed sown early will bloom the first year. Pkt., 15c.

GODETIA

Free-blooming annual, 1½ feet tall, wide open, delicately shaded flowers of satiny texture in lovely colors. It likes best rather thin soil and shady places. Sow in open ground or cold frame. White, pink, crimson, spotted and blotched. **Mixed**—Pkt., 5c.

GOMPHRENA

(Globe Amaranth)

Well known Everlastings, with clover-shaped heads in white, flesh, pink and reddish-purple. Height, one foot. Sow outdoors in spring. Pkt., 5c.

GYPSOPHILA PANICULATA

(Baby's Breath)

A delicately beautiful, hardy perennial. Its mist-like blossoms are useful for lightening other flowers in bouquets. It is easily grown from seed. Sow in open ground in spring. As its name indicates, it is a lime lover, and does best in soils of that formation. Pkt., 5c.

HELICHRYSUM (Eternal Flower)

A fine Everlasting. The plants are quite ornamental, 2 to 3 feet tall, and the flowers are white, yellow, scarlet, carmine, rose, salmon and violet. Sow outdoors in spring. **Mixed**—Pkt., 5c.

HELIOTROPE

Beautiful and deliciously fragrant. In bloom the whole summer. Seeds started indoors in spring will make fine blooming plants for summer. **MAMMOTH MIXED**—Pkt., 10c.

HOLLYHOCKS (Althæa Rosea)

Hollyhocks are at their best treated as biennials, the seed sown in April and May, not later than June, to flower the second year. In their final transplanting, give them a foot of space each way. They like a rich, well drained soil.

We offer Chater's Superb Double, the finest Hollyhocks in the world. **CHATER'S SUPERB WHITE, PEACH BLOSSOM, CRIMSON, YELLOW**—Each, Pkt., 10c.

CHATER'S SUPERB MIXED—Wonderful colors, white shades of red, crimson, rose, yellow, ashen-gray and black. Pkt., 10c; ¼ Oz., 25c.

ALLEGHENY HOLLYHOCKS—Bloom the first year from seed. The semi-double, fringed flowers are very lovely and are produced in all the colors found in Hollyhocks. They bloom from July until frost. **Mixed**—Pkt., 10c., ¼ Oz., 30c.

KOCHIA TRICOPHYLLA (Summer Cypress)

Quick-growing annual, forming globe-shaped bushes; 2 to 2½ feet high, with slender leaves, at first light green, turning to carmine and blood-red in fall. Valuable in formal gardening and quite ornamental until cut down by frost. Sow in spring in open ground. Pkt., 5c; ¼ Oz., 10c.

LOBELIA

Dainty annuals, blooming quickly from seed and continuing in bloom all summer. Useful for beds, hanging baskets and pot culture. Foliage and flowers fine and delicate. Seed may be sown in the house or open ground.

GRACILIS—Light blue, trailing. Fine for baskets. Pkt., 5c.

COMPACTA EMPEROR WILLIAM—Light blue, for edging. Pkt., 10c.

COMPACTA CRYSTAL PALACE—A little beauty. Dark blue flowers, dark bronze-maroon foliage. Of neat and elegant habit and a fine edging plant. Six inches high. It will grow in almost any situation and produce its innumerable little flowers all summer. Pkt., 10c.

LUPINS

Very attractive plants, free-flowering and easily grown. Large terminal spikes of fragrant pea-shaped flowers in blue, white and rose. Sow seed in spring where plants are to remain. Thin to 1½ feet apart.

ANNUAL MIXED—Two feet. Pkt., 5c.

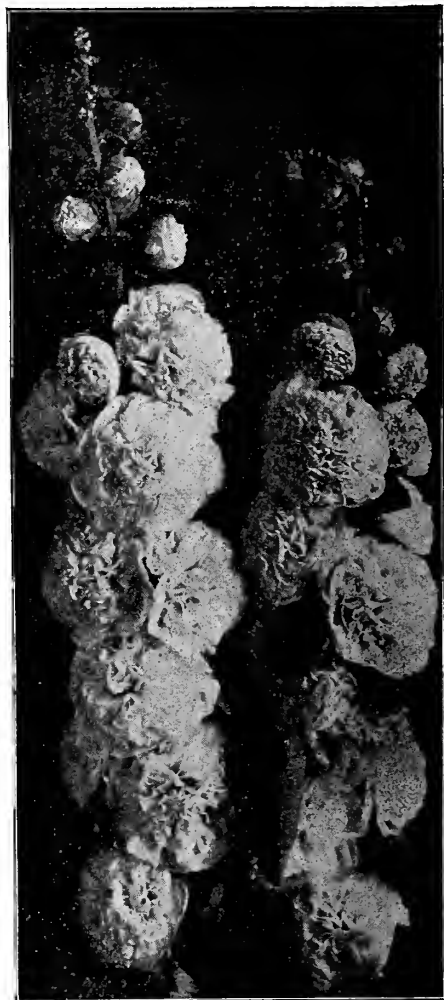
TREE LUPINS—Hardy perennials. Useful border plants. Ornamental foliage and handsome spikes of flowers; 3 to 5 feet. Pkt., 5c.

SNOW QUEEN—White Tree Lupin. Very fine. Pkt., 10c.

LYCHNIS CHALCEDONICA

(London Pride, or Maltese Cross)

A very old flower and a very fine one. Hardy perennial 2 feet high. Strong bushy plants surmounted by dense terminal clusters of small, elegantly formed, velvety scarlet flowers, suggesting in shape the Maltese Cross. Pkt., 5c.



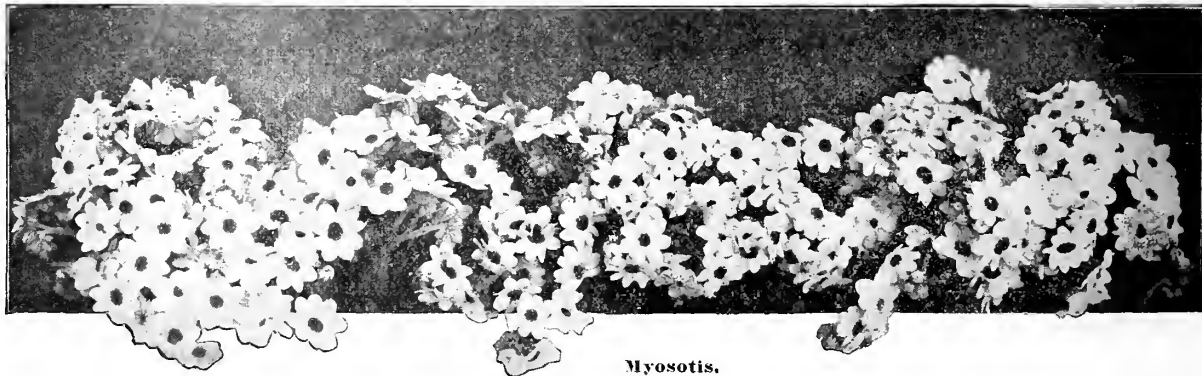
Chater's Superb Double Hollyhock.

MYOSOTIS (Forget-Me-Not)

Hardy biennials. Lovely little flowers flourishing in cool moist situations. Sow in February or March indoors and transplant or sow outdoors as early as possible. Seed may also be sown in the fall. They should be given some protection during winter. The average height is 6 inches.

ALPESTRIS—Pretty little trailer, with bright blue flowers. Pkt., 5c.

VICTORIA—Strong growing, dwarf habit. Large sky-blue flowers, produced abundantly. Fine for borders or pot plants. Pkt., 10c.



Myosotis.

MARIGOLD

(Tagetes)

The African Marigolds have big fluffy flowers in yellow and orange. The French Marigolds have little velvety flowers in yellow, orange, reddish-brown and dark red, many of them handsomely marked. The Marigolds are a sturdy race and are useful in late autumn when the more delicate flowers have perished. Seed may be sown in cold frame or open ground.

TALL AFRICAN MIXED—Three feet. Pkt., 5c; $\frac{1}{2}$ Oz., 15c.

DWARF AFRICAN MIXED—Eighteen inches. Pkt., 5c; $\frac{1}{2}$ Oz., 15c.

TALL FRENCH MIXED—Two and one-half feet. Pkt., 5c; $\frac{1}{2}$ Oz., 15c.

DWARF FRENCH MIXED—One foot. Pkt., 5c; $\frac{1}{2}$ Oz., 15c.

MARVEL OF PERU

(Four-O'Clock)

Old-fashioned tender perennial, bearing hundreds of blossoms in white, yellow and crimson, streaked and blotched. The plants are strong and bushy and should be set two feet apart. The roots may be kept over winter like Dahlias. **Mixed**—Pkt., 5c; Oz., 10c.

MATHIOLA BICORNIS

(Night-Scented Stock)

Plants 15 inches tall, dull lilac blossoms of no beauty whatever, but having an opulence of fragrance possessed by no other flower. Late in the evening they emit this perfume, which is quite distinct. Pkt., 5c.



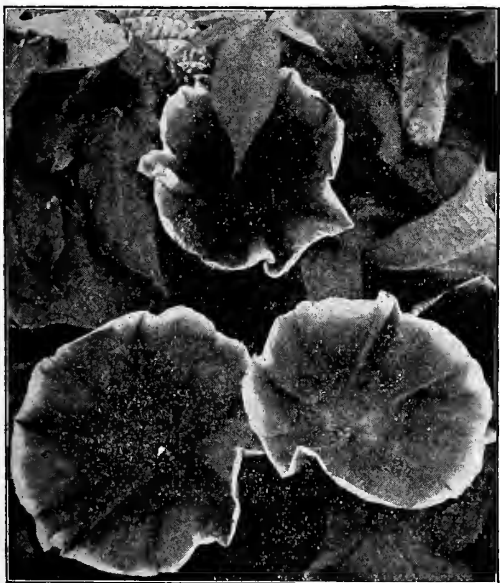
Mignonette.



French Marigold.

MAURANDIA

Graceful, slender climbing plant, with dainty Ivy-like leaves, handsome trumpet-shaped flowers in purple, white and rose, with lighter throat. Tender perennial, fine for either indoors or outdoors. Must be started in the house very early. Six to ten feet. **Mixed**—Pkt., 10c.



Japanese Morning Glory.

MIGNONETTE (Reseda Odorata)

Seed may be planted at any time; usually in spring in the open ground, but may be sown during the summer for succession. July-sown seed will make good winter pot plants. Height, six to twelve inches.

MACHET—Dense spikes of reddish flowers and thick green leaves. Pkt., 5c; $\frac{1}{4}$ Oz., 20c.

GOLDEN QUEEN—Very compact growth. Golden-yellow, very sweet flowers. Pkt., 5c; Oz., 15c.

BISMARCK—An improved Machet, with massive heads. The flowers are larger than those of any other variety. The odor is very strong and delicious. Pkt., 10c; $\frac{1}{4}$ Oz., 15c.

GOLDEN MACHET—Charming golden-yellow. Pkt., 10c; $\frac{1}{4}$ Oz., 20c.

MIXED—A mixture of many choice kinds. Pkt., 5c; $\frac{1}{2}$ Oz., 15c; Oz., 25c.

MORNING GLORY (Convolvulus)

MORNING GLORY (Convolvulus Major)—The old-fashioned Morning Glory. Fifteen feet. **All colors mixed.** Pkt., 5c; Oz., 10c.

IMPERIAL JAPANESE—The flowers of the Japanese Morning Glory have a wonderful range of colors and markings, from pure white to carmine, through all shades of blue and red, bordered, fringed, mottled and striped. The leaves are diversified in shape and color, some being plain green, others blotched with white and yellow. **Mixed**—Pkt., 5c; $\frac{1}{2}$ Oz., 10c; Oz., 15c.

MOONFLOWER (Ipomoea)

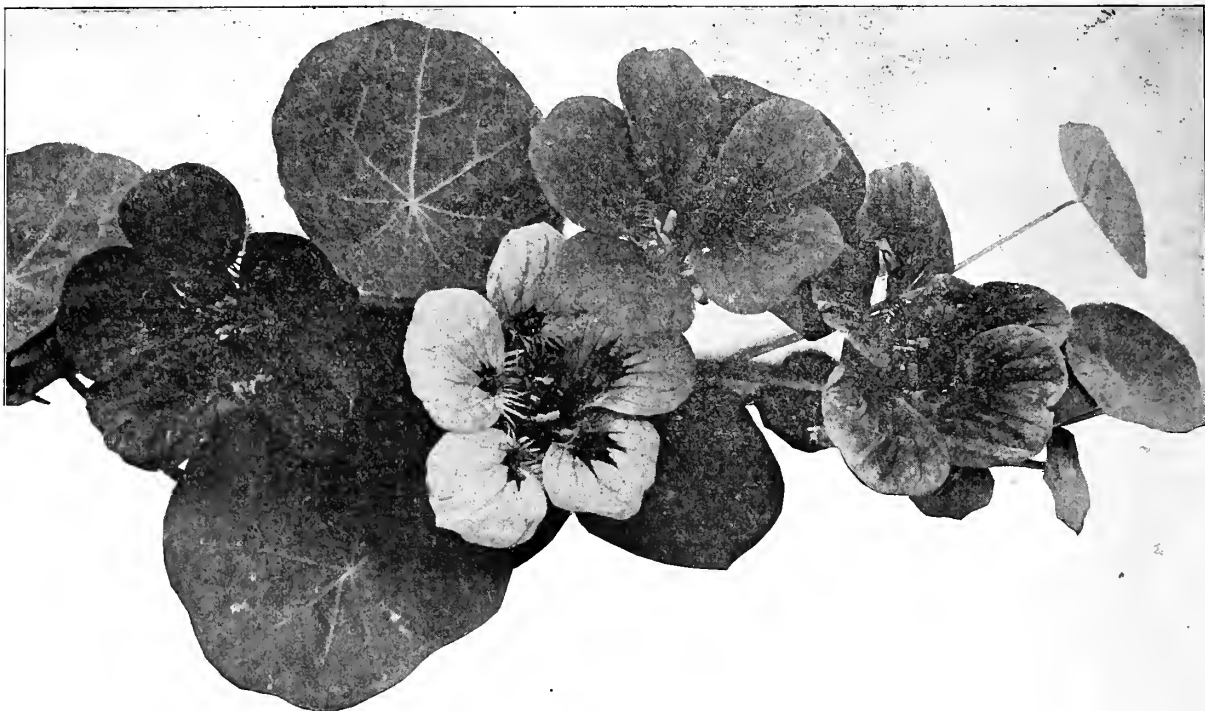
Splendid annual climbers. Vines graceful, yet sturdy, making a marvelous growth in a season. Seed should be soaked in warm water twenty-four hours before planting, and large ones notched with a file. Start in the house and transplant to open ground. Twenty feet.

WHITE MOONFLOWER—Giant, pure white flowers five to six inches across, on slender tubes. Pkt., 10c.

HYBRID MOONFLOWER—An early blooming variety, very valuable for the North. Pure white flowers. Pkt., 10c.

NORTHERN LIGHT—Soft lilac-pink. Pkt., 10c.

COCCINEA—Small brilliant scarlet flowers in great abundance. Pkt., 5c.



Nasturtium.

NASTURTIIUMS

(*Tropæolum*)

Nasturtiums do well on any soil and should be planted thickly to insure long stems.

TALL NASTURTIIUMS

(*Tropæolum Major*)

CHAMELEON—This unique variety bears flowers of quite distinct coloring on the same plant. Pkt., 5c; Oz., 10c.

SUNLIGHT—Beautiful, clear bright orange. Vigorous growth and splendid flowers. Pkt., 5c; Oz., 10c.

YELLOW—Pkt., 5c; Oz., 10c.

CLOTH OF GOLD—Brilliant scarlet flowers. Foliage very pale, almost yellow. Pkt., 5c; Oz., 10c.

SCARLET—Brilliant scarlet flowers. Bright green foliage. Very fine and free blooming. Pkt., 5c; Oz., 10c.

VESUVIUS—Beautifully formed flowers of salmon-rose. Extra fine. Pkt., 5c; Oz., 10c.

JUPITER—Very large yellow flowers. Pkt., 5c; Oz., 10c.

CRIMSON—Pkt., 5c; Oz., 10c.

STARK'S HYBRIDS—The foliage of Stark's Hybrids is variegated green and white. They are splendid growers and the flowers are very beautiful, in all shades of scarlet, ruby, yellow and terra cotta. Pkt., 5c; Oz., 20c.

TALL FINEST MIXTURE—A splendid mixture of beautiful colors. Pkt., 5c; Oz., 10c; ½ Lb., 20c.

DWARF NASTURTIIUMS

(*Tropæolum Nanum*)

CHAMELEON—Very fine. On the same plant will be found self-colored flowers and others with most diversified markings. Pkt., 5c; Oz., 10c.

GOLDEN KING—Golden-yellow. Pkt., 5c; Oz., 10c.

EMPEROR OF INDIA—Deep crimson; fine, dark foliage. Pkt., 5c; Oz., 10c.

VESUVIUS—Pkt., 5c; Oz., 10c.

RUBY KING—A very beautiful variety. Flowers of a peculiar shade of bluish-red. Pkt., 5c; Oz., 10c.

MIXED—All of the above and many others in finest mixture. Pkt., 5c; Oz., 10c.

RYBURGH PERFECTION—Variegated foliage, bright scarlet flowers. A fine novelty, with leaves marked with silver, gold and green. Pkt., 10c.

NICOTIANA (Sweet-Scented Tobacco Plant)

Very easily grown annual. The large fragrant flowers suggest the Petunia, but have a longer tube. They open towards evening. Sow in boxes in the spring and transplant to the open.

AFFINIS HYBRIDS—Compact plants; two feet high. Splendid flowers in blue, red and rose. **Mixed**—Pkt., 5c; ½ Oz., 15c.

SANDERAE—Fine branching plants bearing an abundance of beautiful, dark carmine flowers on graceful stems. Are very useful in the border, as they are in bloom from summer to autumn. Pkt., 5c.

SILVESTRI—An elegant variety. Plants three feet across, two to three feet high. Dark green leaves and large, pure white, very sweet flowers hanging in racemes. Pkt., 5c.

NIGELLA (Love in a Mist)

An interesting and attractive annual. The bright blue or white flowers are veiled by the thread-like foliage, giving to the plant an unusual appearance. Very good for cutting. Strong plants one and a half to two feet tall. Sow in spring or fall in the open ground.

MISS JEKYLL—Flowers of clear, Cornflower-blue. Pkt., 10c.

HISPANICA ALBA—White Spanish. Pkt., 5c.

ONOETHERA (Evening Primrose)

Fine annual. The plants grow two to two and a half feet tall. The large, silky, pale-yellow flowers are borne on a long spike. They open every evening and remain open well into the next day. Sow seed outdoors in spring. Pkt., 5c.

PENTSTEMON

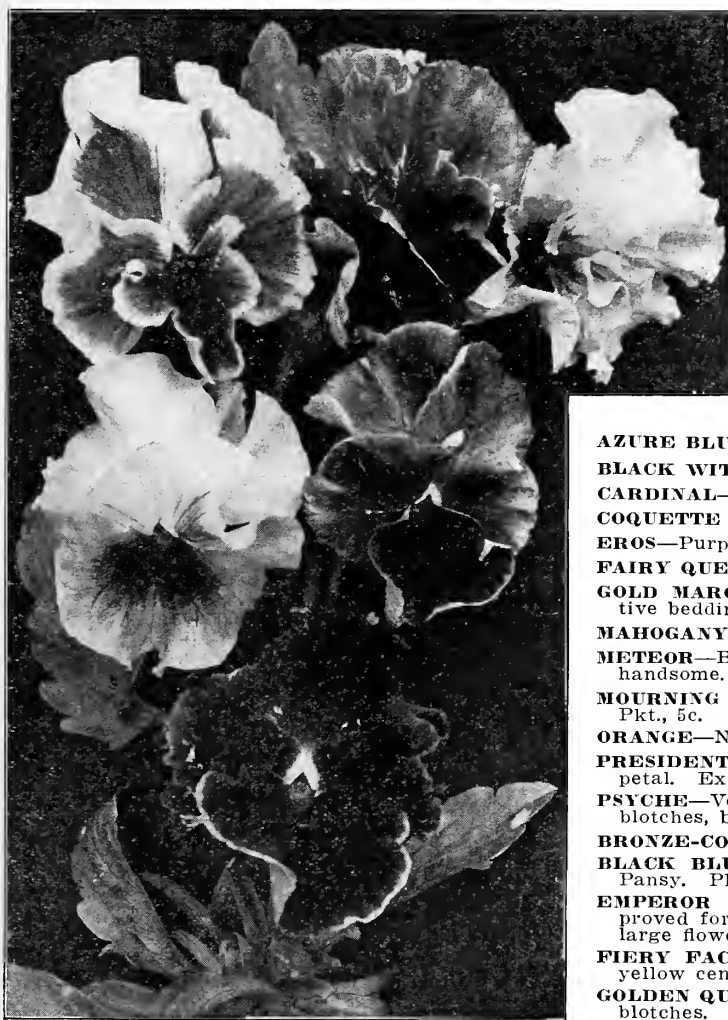
Fine hardy perennials. Good for beds, borders, rock gardens and cut flowers. Average height one and a half feet. Sow in spring in open ground. Pkt., 5c.

PLATYCODON

CHINESE BELL FLOWER—This is a very beautiful hardy perennial. It has large artistic flowers of blue and white, produced in profusion during the whole season. The plants form large clumps, and for planting in permanent borders or among shrubbery, are very useful. Easily grown from seed. **Mixed Blue and White**—Pkt., 10c.

PANSY (Viola Tricolor)

THIS DELIGHTFUL FLOWER justly deserves the prominent place that it occupies. The seed may be sown during August or September, either in cold frame or outdoors; in the latter case using rich, moist soil. From these beds plants may be moved before severe winter weather begins, to cold frames, setting them two or three inches apart each way; then, early in the spring three-fourths of them can be lifted for bedding, the remainder left to bloom in the frame. If desired for winter blooming, set the plants four to six inches apart in a frame, thinning out half of these in the spring; protect from severe weather by sashes, using a covering of matting or straw in very severe weather. It is, however, desirable to keep them quite cool, almost allowing them to freeze. Especially in mild weather the sash should be tilted to admit light and air. Beds may also be made out of doors, using a mulch of dry leaves with a little brush to hold them in place. Raise the bed a few inches above the ground. In such locality Pansies will winter nicely and furnish abundant bloom early in the season. Pansies are cool weather flowers. If seed is sown in spring it should be done early, because it is difficult to secure the finest bloom during the heat of the summer. Flowers are always finer and more beautiful during cool weather.



Masterpiece.

MASTERPIECE—(See illustration.) An extra select strain and quite distinct. The petals are so ruffled and curled that the flowers appear double, hence they are often called "Spencer Pansies" from their resemblance to the Spencer Sweet Peas. The large flowers are of rich and beautiful colors. Pkt., 10c.

LORD-BEACONSFIELD—Splendid large-flowering. Purple-violet, top petals white. Pkt., 5c.

VULCAN—Very beautiful large-flowering Pansy. Dark red with black blotches. Pkt., 10c.

MAUVE QUEEN—New. Very large-flowering, soft, rich mauve. Pkt., 10c.

***BATH'S EMPRESS**—This is the finest strain of this renowned grower. The flowers are large, striking and rich, with ruffled edges. Pkt., 20c.

CASSIER'S—Immense flowers, each one three-spotted or five-spotted. Very rich and showy. Pkt., 10c; ¼ Oz., 40c.

BUGNOT'S EXHIBITION—An incomparable strain, producing many rare and beautiful varieties. Flowers blotched and stained, shades of red, bronze and brown predominating. Plants very strong. Pkt., 20c.

TRIMARDEAU OR GIANT PANSIES—Remarkably large flowers of rich and varied shades. Plants hardy and vigorous. Pkt., 10c; ¼ Oz., 40c.

ORCHID OR CATTLEYA-FLOWERED—Exquisitely beautiful. Rare light pastel shades. Large frilled flowers. Pkt., 10c.

MERCURY—A superb new Giant Pansy. Dark velvety purple. Extra large flower. Pkt., 10c.

MADAME PERRET—Giant Pansy. Beautiful rose and wine shades. Pkt., 10c.

KING OF THE BLACKS—Lustrous coal-black. Very large flower. Pkt., 10c.

AZURE BLUE—Velvety violet-blue. Pkt., 5c.

BLACK WITH BRONZY CENTER—Very fine. Pkt., 5c.

CARDINAL—Brilliant red. Pkt., 5c.

COQUETTE DE POISSY—Mauve. Pkt., 5c.

EROS—Purple with yellow border. Pkt., 5c.

FAIRY QUEEN—Light blue bordered with white. Pkt., 5c.

GOLD MARGINED—Very beautiful and striking. An effective bedding variety. Pkt., 5c.

MAHOGANY-COLORED—Deep rich mahogany. Pkt., 5c.

METEOR—Bright red-brown with darker blotch, striking and handsome. Pkt., 5c.

MOURNING BRIDE—Very fine. Dark purple with white edge. Pkt., 5c.

ORANGE—New. Very striking. Pkt., 5c.

PRESIDENT CARNOT—Pure white with violet blotch on each petal. Extra. Pkt., 10c.

PSYCHE—Very similar to President Carnot, white with violet blotches, but with waved petals. Pkt., 10c.

BRONZE-COLORED—Bronzy dark brown. Pkt., 5c.

BLACK BLUE—Very dark and velvety. Very large giant Pansy. Pkt., 5c.

EMPEROR WILLIAM—Cornflower-blue. Showy. An improved form of the well-known bedding variety with very large flowers. Pkt., 5c.

FIERY FACES—Bright reddish-brown with gold edge and yellow center. Very showy, giant-flowered sort. Pkt., 10c.

GOLDEN QUEEN—Giant Pansy. Pure golden-yellow without blotches. Good bedding variety. Pkt., 10c.

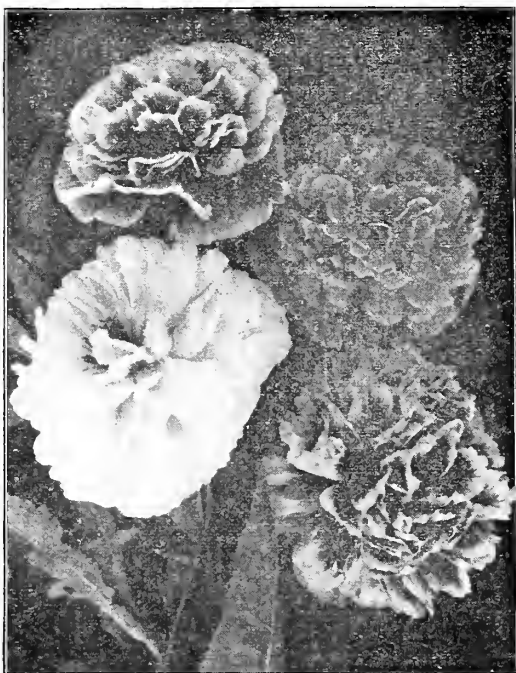
PRESIDENT MCKINLEY—A very beautiful Pansy of the Cassier type. Giant flowers of rich yellow with five blotches. Pkt., 10c.

PRINCE BISMARCK—Beautiful light bronze with large dark eye. Very large flowers. Pkt., 10c.

PRINCE HENRY—Splendid giant Pansy of deepest, richest blue. Pkt., 10c.

SNOW QUEEN—A giant form of the beautiful Snow Queen or Snowflake. Dainty flowers of purest white, chaste and elegant. A fine bedding variety. Pkt., 10c.

W. B. MIXTURE—A blend of the choicest strains and including all our named varieties. We mix this ourselves and are certain that it will produce beautiful flowers. Pkt., 15c.



Ranunculus Poppies.

POPPIES (Papaver)

ANNUAL POPPIES

Sow early in the spring in the open ground. May also be sown in the fall. The tall varieties average two feet.

SINGLE ANNUAL

BLACK PRINCE—A striking and beautiful flower. Brilliant blackish-brown overlaid violet, with light stamens. Pkt., 5c.

KING EDWARD—Beautiful deep scarlet-crimson shaded flowers. Pkt., 5c.

SHIRLEY—Delicately beautiful. Silky crinkled petals in shades of blush, white, pink, rose, crimson, salmon, carmine and scarlet. They are lovely for cutting, although they do not last very long in water. Re-selected delicate shades mixed. Pkt., 5c; ¼ Oz., 20c.

TULIP POPPIES—Large Tulip-shaped flowers of brilliant scarlet. Pkt., 5c; ¼ Oz., 20c.

SINGLE ANNUAL POPPIES—Mixed. Pkt., 5c; ¼ Oz., 15c.

DOUBLE ANNUAL

FAIRY BLUSH—Great fluffy, globe-shaped flowers, pure white tipped delicate rose. Beautiful. Pkt., 5c; ½ Oz., 15c.

WHITE SWAN—Large double fringed white flowers. Pkt., 5c; ½ Oz., 10c.

CARNATION-FLOWERED—Large, finely formed, fringed flowers of wonderful richness of color. Pkt., 5c; ½ Oz., 10c; Oz., 15c.

PAEONY-FLOWERED—Very large double flowers resembling the Paeony. Pkt., 5c; ½ Oz., 10; Oz., 15c.

RANUNCULUS-FLOWERED—Small finely formed, double flowers. Pkt., 5c; ½ Oz., 10c; Oz., 15c.

DOUBLE ANNUAL POPPIES—Mixed—Pkt., 5c; ½ Oz., 15c; Oz., 25c.

PERENNIAL POPPIES

Seed of perennial Poppies may be sown outdoors in the spring or fall.

ORIENTAL POPPY, GIANT SCARLET—Splendid plant, growing three feet tall, and forming large clumps. Large, hairy, dark green leaves and long strong stems. The enormous flowers are of dazzling scarlet, with black blotches. Pkt., 10c.

ORIENTAL HYBRIDS—Of the same character as the Giant Scarlet, but the flowers are of rare and beautiful colors, ranging from softest pink to deepest red, and are also found in shades of lilac and mauve. For gorgeous effects nothing can surpass the Oriental Poppies. **Mixed**—Pkt., 10c.

ICELAND POPPIES—The beautiful Iceland Poppies will flower the first year from seed. They are in bloom the entire season. The plants grow in tufts about a foot high. The delicate silken flowers resemble the annual Shirley in shape and texture, are deliciously fragrant, and range in color from pure white to orange. **Single Mixed**—Pkt., 10c. **Double Mixed**—Pkt., 10c.

PHLOX DRUMMONDII

Some of the sweetest flowers in the floral kingdom are found in the annual Phloxes, glowing crimsons and scarlets, soft and delicate rose, lavender, white, chamois, delicately flushed and shaded. Seed may be sown in spring in the open ground as soon as it can be worked, or started in the house and transplanted. Hardy annual, self-sowing.

Tall—One foot in height. **White, scarlet, pink, rose, violet, striped**—Each, Pkt., 5c; ¼ Oz., 15c. **Mixed**—Pkt., 5c; ¼ Oz., 25c.

HORTENSIFLORA—Semi-dwarf, six to eight inches. Pkt., 10c.

CECILY—Compact, bushy plants four inches high. Large flowers in every shade, produced all summer. Pkt., 10c.

STAR PHLOX—Pointed, star-shaped petals. **Mixed**—Pkt., 5c; ¼ Oz., 20c.

PHLOX DECUSSATA

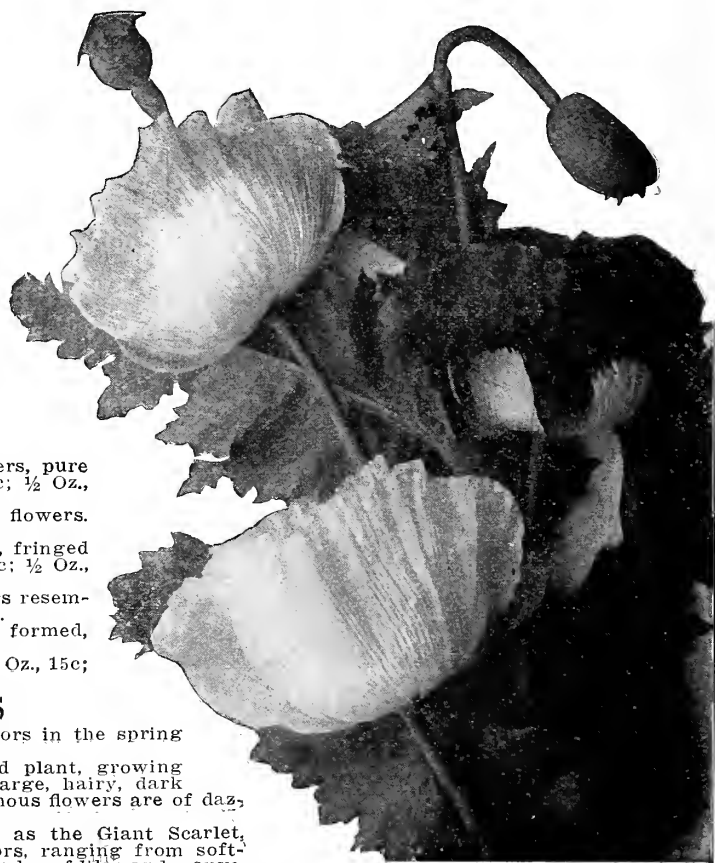
PERENNIAL PHLOX—One of our most beautiful and lasting perennials. Large branching plants from one to three and even four feet in height, with large heads of finely colored flowers in pure white, rose, lavender, purple, scarlet and crimson. Sow seed outdoors in spring. **Mixed**—Pkt., 10c.

PYRETHRUM

The Pyrethrum is a very fine hardy perennial and one of the most valuable. The charming flowers come in nearly all colors and are very lasting when cut. They bloom in May and June and sometimes give a second crop in August and September. The foliage is finely cut and graceful. Average height two feet. Sow outdoors in spring.

ROSEUM SINGLE MIXED—Daisy-like flowers, 2 to 3 inches in diameter. Pkt., 15c.

DOUBLE MIXED—Extra choice selected seed. Double flowers in white, yellow, crimson and scarlet. Pkt., 25c.



Oriental Hybrids.



PETUNIA

Care must be taken to have the soil for Petunia seed finely pulverized. Sow seed on surface, press down with a board and cover very lightly. Sowings may be made in open ground, hothed, cold frame or boxes in sunny windows.

BEDDING PETUNIAS

HOWARD'S STAR—Very showy. The flowers show a five-pointed star in white on a velvety crimson ground. Pkt., 5c.

ROSY MORN—Compact little plants, covered with soft rosy-pink flowers, with white throat. Pkt., 5c.

SNOWBALL—Pure white, single dwarf variety. Pkt., 5c.

BEDDING VARIETIES in finest mixture. Pkt., 5c.

LARGE FLOWERING PETUNIAS

GIANTS OF CALIFORNIA—Gorgeous single flowers, 4 or 5 inches in diameter, nearly all of them ruffled or fringed, in a great variety of colors, penciled and blotched in most fascinating combinations. Pkt., 15c.

LARGE FLOWERING, SINGLE, MIXED—A mixture of the choicest kinds. Pkt., 5c.

PORTULACA

(Moss Pink)

The Portulaca will grow in hot, dry situations where other plants would die. Do not sow seed until the ground is warm. They will open only in the hot sun. The average height is 6 inches, and the finely cut succulent foliage forms a dense mat. Both single and double varieties are dazzlingly bright and beautiful. The double sorts come about half true and are like little waxen roses.

SINGLE—Rose, Crimson, Striped—Each, Pkt., 5c; ¼ Oz., 20c. Mixed—Pkt., 5c; ¼ Oz., 15c.

DOUBLE—Rose, Crimson, Striped—Each, Pkt., 10c. Mixed—Pkt., 10c; ½ Oz., 75c.

RICINUS (Castor Oil Plant)

Plant seed in open ground in rich soil, or start indoors and transplant. Allow at least four feet each way.

CAMBODGENSIS—Large palm-like leaves of darkest bronze-maroon. Stalks and stems nearly black; 6 to 8 feet. Oz., 10c.

SANGUINEIS—Green leaves, red stem and seed; 6 feet. Oz., 10c.

ZANZIBARENSIS—Largest of all. The plants grow 10 to 12 feet tall and form perfect pyramids. The beautiful lobed leaves measure 2½ to 4 feet across. Oz., 10c; ¼ Lb., 35c.

MIXED—All sorts, Oz., 10c; ¼ Lb., 30c.

SCHIZANTHUS

Dainty, graceful annual. Neat, compact little plants, one foot high, with finely cut foliage, completely covered by multitudes of bright butterfly-like flowers in many and varied colors. Pkt., 5c.

SALVIA (Scarlet Sage)

The standard bedding plant. Grown for window boxes, pot plants and cut flowers, but is at its best as a hedge or border plant. It is very easily grown from seed. Start seeds in greenhouse or in boxes in sunny window.

SPLENDENS—The original Scarlet Sage. Long spikes of intense scarlet. Plants 2½ to 3 feet tall. Pkt., 5c.

FIREBALL—This is the earliest and freest flowering Salvia. The plants are 1½ feet tall, almost covered by the fiery-scarlet flowers. They begin blooming the first of July and continue until frost. Pkt., 15c.

Giants of California.

PRIMULA

(Primrose)

PRIMULA VULGARIS—The beautiful tufted, wild English Primrose. It grows best in moist, partially shaded places. The seed is very slow in germinating and may stay in the ground a year, but when once established, the plants are quite hardy. Flowers primrose-yellow. Plants 6 inches high. Pkt., 5c.

PRIMULA ELATIOR (Polyanthus)—The Polyanthus is an old hardy garden flower that has been wonderfully improved. The flowers are very rich and charming, being combinations of yellows, reds and browns, each flower having a central star of contrasting color. They do best in partial shade. They make fine bedding plants and also take very kindly to pot culture. We offer the Munstead strain, which is especially fine. Pkt., 25c.

RHODANTHE

Delicate and beautiful everlasting flowers, rose with dark center, and white with yellow disk. One foot. Mixed—Pkt., 5c.

SALPIGLOSSIS

The Salpiglossis is one of the best annuals for cutting. The funnel-shaped flowers are of velvety richness in wonderful shades of lilac, purple, crimson, scarlet, brown and gold, exquisitely penciled, borne on long graceful stems. Of the easiest culture. May be started in the house or outdoors. Height, 2 feet.

PURPLE VIOLET—Pkt., 10c.

VIOLET VEINED WITH GOLD—Pkt., 10c.

BROWN AND GOLD—Pkt., 10c.

YELLOW—Pkt., 10c.

EMPEROR FINEST MIXED—Robust class. Very large flowers. Pkt., 10c; ¼ Oz., 20c.

SCABIOSA (Mourning Bride)

A quaint and attractive old-fashioned flower. It is easily grown and unequalled for cutting. The small cushion-like flowers are borne on long slender stems. They are usually white, dark maroon, scarlet, yellow, rose, lilac and pink, with prominent and beautiful stamens. Sow seed outdoors in the spring. The tall varieties grow 2½ feet tall and the dwarf 1 foot. Tender annual.

TALL MIXED—Two and a half feet in height. Pkt., 5c; ½ Oz., 15c.

DWARF MIXED—One foot in height. Pkt., 5c; ½ Oz., 15c.

SNOWBALL—Pure white, large-flowering. Pkt., 5c.

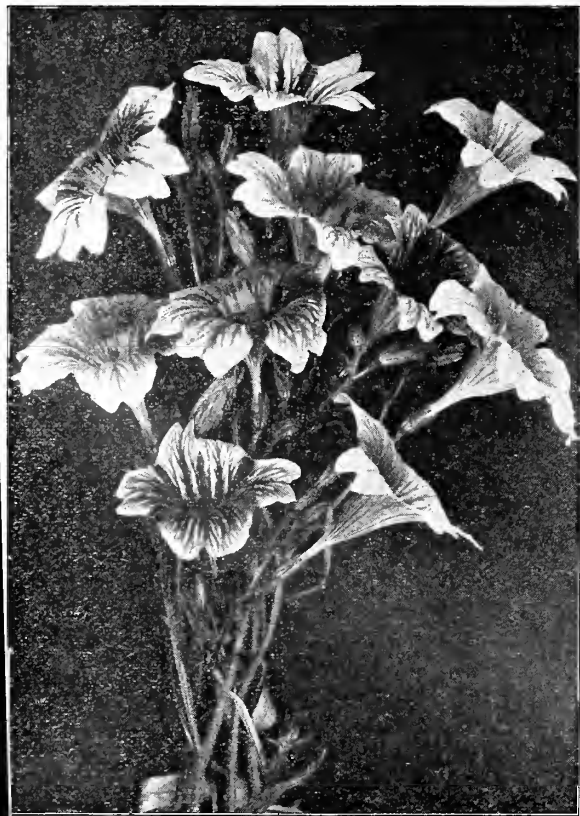
SCARLET—Large-flowering. Pkt., 5c.

FLESH—Large-flowering. Pkt., 5c.

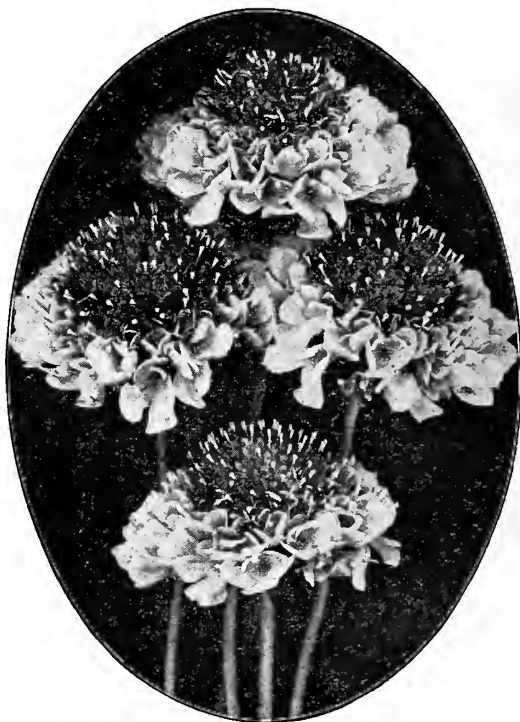
MOURNING BRIDE—Dark maroon. Large-flowering. Pkt., 5c.

STOCKS

Stocks have good habit, fine leaves, beautiful fragrant flowers and a long blooming season. They are adapted to all purposes, cutting, bedding and pot culture. The color runs to all shades of rose, purple, lavender, maroon, yellow, crimson and red. Sow seed outdoors in spring in well pulverized soil, covering one-fourth inch with fine soil. For early blooming, start indoors and transplant.



Salpiglossis.



Scabiosa.

LARGE-FLOWERING DWARF TEN-WEEKS STOCKS—Fine for bedding. Every color. Pkt., 10c; ¼ Oz., 25c.

GIANT PERFECTION—Fine for pot plants and cutting as well as for outdoor bedding. Plants grow 1½ feet tall and are pyramidal in habit, with numerous side branches covered with fragrant double flowers. Pkt., 10c; ¼ Oz., 40c.

PRINCE BISMARCK—These bloom after the Ten-Weeks Stocks have ceased and form immense bushes 2½ feet tall, with long flower stalks. **White, Rose, Light Blue.** Each, Pkt., 15c.

BROMPTON OR WINTER STOCKS—Half hardy biennial. Winter stocks require more time to grow than other kinds. They will flower in the fall from seed started in hotbeds early in spring and transplanted, or in winter from seed sown outdoors. Plants are taken up in the fall.

KELWAYS' BEAUTIFUL BROMPTON in finest mixture. Pkt., 10c.

SUNFLOWER (Helianthus)

MANMOTH RUSSIAN—Well known variety. Gigantic plant with enormous single flowers. Oz. 5c.

MINIATURE HYBRIDS (Cucumerifolius)—Charming little flowers. Single, semi-double and double mixed, in cream, golden-yellow and orange. They make a wonderful display in the garden and are fine for cutting: 3 to 4 feet. Pkt., 5c.

DOUBLE CHRYSANTHEMUM-FLOWERED—Six feet. Rich golden-yellow double flowers. Pkt., 5c; ½ Oz., 10c.

SUTTON'S RED SUNFLOWER, or Gaillardia Sunflower—This is a very attractive novelty. The majority of the flowers have petals yellow at the tips with a zone of chestnut around the dark center, forming a rich and harmonious combination. The plants grow 5 to 7 feet tall and the flowers 5 to 7 inches in diameter. Pkt., 15c.

SWEET WILLIAM (Dianthus Barbatus)

Hardy perennial, producing large clusters of lovely flowers, ranging from pure white to almost black, through all shades of crimson, pink, rose and scarlet, beautifully marked; 2 feet. Sow outdoors in spring. Plants will last several years and freely self-sow.

DOUBLE MIXED—Pkt., 5c; ¼ Oz., 20c.

SINGLE MIXED—Pkt., 5c; ¼ Oz., 15c.

DOUBLE AND SINGLE MIXED—Pkt., 5c; ¼ Oz., 15c.

PINK BEAUTY—Lovely salmon-pink. Pkt., 5c.

SCARLET BEAUTY—Intense scarlet. A bed of this variety is very striking. Pkt., 15c.

AURICULA-EYED—Various shades, each flower having a clearly defined eye. Pkt., 10c.

SWEET PEAS SPENCER VARIETIES

Spencer Sweet Peas are distinguished from the old Grandiflora kinds by their immense flowers and the graceful waved or frilled standard and wings, the lovely colors and good long stems. They are far superior to the older varieties.

HELEN PIERCE SPENCER—New. Refined and extremely beautiful. Ground pure white delicately penciled with bright blue. Vines vigorous, producing an abundance of strong stems carrying four large flowers. Pkt., 15c.

FIERY CROSS—A splendid novelty. The flowers are a wonderful fire-red or scarlet, self-colored, having, in bright sunshine, the appearance of live

fire. The beautifully waved and fluted flowers are borne freely in threes and fours on long stout stems. Pkt., 50c for ten seeds.

KING WHITE—A splendid new white, far ahead of any of the old White Spencers in form, size, vigor and purity. Fine for decorative work. The flowers are of giant size, perfectly finished in every detail, of glistening immaculate white. The stems are long and stiff, bearing a great number of four-blossomed sprays. Pkt., 15c; Oz., \$1.00.

NEW MIRIAM BEAVER—A beautiful sort, much finer than the old Miriam Beaver. The color is new and distinct, a dainty and pleasing shade of pink, which might be described as a blending of soft salmon and delicate Hydrangea-pink on a cream ground. The large waved flowers are often duplexed and usually borne in fours on long stems. Pkt., 15c.

ROYAL PURPLE (Dobbies?)—This is an English variety of recent introduction. It is of great distinction and size, in color a fine rich royal purple. The vines are vigorous with strong stems, carrying usually four flowers to the spray. Pkt., 15c.

ROBERT SYDENHAM—This variety created a great sensation at the Annual Exhibition in London by its wonderful color, a glowing orange. It is a strong grower and gives plenty of flowers, which are large and waved, usually produced four to a stem. Pkt., 20c.

ROSINA (New)—Of English introduction. Distinct and beautiful. The frilled flowers are of extraordinary size and of true Spencer form. In color, bright rosy-heliotrope, with a distinct wire edge of solferino-red on a cream ground, very effective and different from anything else in Sweet Peas. Vines vigorous, bearing many four and five-flowered sprays. Pkt., 15c.

NEW MARGARET MADISON—A greatly improved strain of this lovely variety. The flowers are nearly doubled in size, and most perfectly formed. The color is exquisite pale azure-blue. A charming and refined sort. Pkt., 10c; Oz., 50c.

QUEEN WHITE—An English variety, very large elegantly finished flowers of great beauty and substance. Pkt., 10c; Oz., 75c.

AMERICA SPENCER—Ivory-white, striped brilliant crimson. Pkt., 10c; Oz., 30c.

APPLE BLOSSOM SPENCER—One of the most charming varieties we have ever grown. Exquisite flowers of rose and blush waved. Very free blooming. Pkt., 10c; Oz., 35c.

ASTA OHN—The best lavender. Large beautiful flowers on long stems. Color clear and pure. Flowers are usually borne four to a stem. Pkt., 10c; Oz., 35c.

CAPTAIN OF THE BLUES—Large bold flowers of deep rich color. Standard, purple; wings blue waved. Pkt., 10c; Oz., 35c.

COUNTESS SPENCER—The first of this lovely type, from which have sprung all others. It should be in every collection. Soft rose-pink, deepening at the outer edges. Large flowers, three and four to the spray. Pkt., 10c; Oz., 35c.

DAINTY SPENCER—Clear white with rose-pink edges. Very pretty and graceful. Pkt., 10c; Oz., 35c.

ELFRIDA PEARSON—One of the best in cultivation. Very large flowers borne in fours on long stiff stems. Color, soft blush-pink, tinted salmon-pink. Vines very vigorous. A very free bloomer. Pkt., 10c; Oz., 45c.

FLORA NORTON SPENCER—Beautiful light blue, with faint tinge of purple. The best of this color. Pkt., 10c; Oz., 35c.

FLORENCE MORSE SPENCER—Deep blush-pink, very large waved flowers, usually borne four to a stem on long stiff stems. Pkt., 10c; Oz., 35c.

HELEN LEWIS—A wonderfully beautiful and striking variety. Richest orange-rose flowers, of fine form. It is impossible to describe this flower. One must see it to appreciate its soft and glowing richness of color. Pkt., 10c; Oz., 45c.

ILLUMINATOR—One of the finest of the new varieties and quite distinct. In color it is a glowing salmon-rose, indescribably bright and beautiful. The flowers are large and perfect, usually borne in fours. Vigorous and free. Pkt., 10c.

KING EDWARD SPENCER—Giant flowers of deep rich carmine-scarlet. Long stiff stems frequently carrying four blooms. Strong-growing and free-blooming. Pkt., 10c; Oz., 35c.

MRS. ROUTZAHN—One of the loveliest. Very pale apricot or buff, flushed and suffused delicate pink. The flowers are large and beautifully placed, forming most graceful sprays, and are freely borne. Pkt., 10c; Oz., 35c.

OTHELLO SPENCER—A strong and vigorous grower, bearing the large and beautifully waved flowers in profusion, on long strong stems. Color, deep rich maroon. Pkt., 10c; Oz., 30c.

PRIMROSE SPENCER—Large waved flowers of pale, clear primrose. The best of this color. Pkt., 10c; Oz., 30c.

SENATOR SPENCER—Large and handsome flowers, a combination of claret and chocolate striped, on a light heliotrope ground. Vigorous and free. Pkt., 10c; Oz., 30c.

TENNANT SPENCER—A large and noble flower, elegantly formed. Self-colored in soft and beautiful rosy-purple. One of the very best. Long strong stems. Pkt., 10c; Oz., 35c.

ZARINA—Beautiful pale salmon-pink. A delicate and lovely flower. Pkt., 10c; Oz., 30c.

SPENCER MIXED—A splendid mixture of both delicate and brilliant shades in good proportion. Sure to please. Pkt., 10c; Oz., 30c.

GRANDIFLORA SWEET PEAS

ANY 6 PACKETS FOR 25c.

WHITE WONDER—A lovely variety. Large, beautifully formed double flowers of pure white, on long stems. Usually borne four to a spray, produced in masses on the tall and vigorous vines. Pkt., 5c; Oz., 15c.

HELEN PIERCE GRANDIFLORA (Special)—Extremely beautiful. Pure white ground, penciled blue, like the Helen Pierce Spencer. Flowers are large and beautifully formed and cover the vines, which grow to a great height. Pkt., 5c; Oz., 20c.

BLANCHE FERRY—A delightful variety. The vines are literally covered by the charming flowers which have white wings and bright rose standards. Vigorous grower and always reliable. Pkt., 5c; Oz., 15c.



GRANDIFLORA SWEET PEAS—Continued

AMERICA—Bright red and white striped. Pkt., 5c; Oz., 15c.

BLACK KNIGHT—Deep maroon, large flowers and free bloomer. Pkt., 5c; Oz., 15c.

COCCINEA—Pure bright cerise. Pkt., 5c; Oz., 15c.

DAINTY—Very pretty. Clear white with pink edge. Pkt., 5c; Oz., 15c.

DOROTHY ECKFORD—Beautiful pure white flowers, large and of good substance. Pkt., 5c; Oz., 15c.

EMILY HENDERSON—Early white, large bold flowers produced profusely. Pkt., 5c; Oz., 15c.

KING EDWARD VII—Large fine flowers of bright crimson-scarlet, borne on long strong stems. Pkt., 5c; Oz., 15c.

LADY GRIZEL HAMILTON—The best lavender Grandiflora. A very beautiful flower, color clear and silvery. Free-blooming and vigorous. Pkt., 5c; Oz., 15c.

LORD NELSON—Deep navy-blue. Pkt., 5c; Oz., 15c.

PRIMA DONNA—Beautiful bright pink. Large and finely formed flowers. Pkt., 5c; Oz., 15c.

QUEEN ALEXANDRIA—Intense scarlet, large flowers of beautiful form on long strong stems. Very free-blooming and stands hot sun well. Pkt., 5c; Oz., 15c.

GRANDIFLORA MIXED—All the best colors in finest mixture. Pkt., 5c; Oz., 15c.

HOW TO GROW SWEET PEAS

SWEET PEAS should be planted early in the spring, as soon as the ground can be worked. It is necessary for the soil to be deep and well prepared. It is a good plan to prepare the ground the fall before, digging deeply and working manure into the subsoil. There should be no manure in the surface soil in which the seed is sown. If manure cannot be obtained, bone meal is good. Sometimes Sweet Peas, especially the white seeded sorts, are a little difficult to start. If planted in soil that is too dry, they will remain a long time without sprouting. If the soil is too cold and wet, they are liable not to sprout at all. Should not be grown on the same ground year after year. If it is impossible to change the location, the soil should be removed to the depth and width of a foot and replaced by fresh soil.

Most people make the mistake of planting Sweet Peas too close together. The plants should be at least two or three inches apart. Four inches apart is better. Plant the seeds four inches deep, allowing an ounce of seed to every 12 feet. As soon as the young plants appear above the ground, they should be given support, either wire trellis, strings or brush. It is very important that this should be done, because if the young vines once fall to the ground they are ruined, and after they are once up they grow so rapidly that they are apt to reach the stage where they need support before the gardener realizes it. When the plants are two inches high, cultivate them. In early spring the ground is usually moist enough, but later on in the season, if the weather is dry, the roots should receive a thorough soaking once or twice a week. Just sprinkling the vines or throwing a few drops on top of the ground does no good whatever. Sowing in the fall is sometimes practiced; preferably in a dry situation, sowing

the seed three to five inches deep. Fall sowing gives the earliest flowers, but is uncertain, and one may lose one's seed.

Sowing in trenches is often practiced, making the trench three to four inches deep, arranging it so that no water can stand in it, planting the seed in the bottom, covering it first only one inch deep, and gradually filling up the trench as the young plants grow.

STOKESIA CYANEA

Hardy perennial, 1½ to 2 feet tall, bearing in profusion the soft lavender-blue flowers, which resemble the Corn Flower. It blooms from July until frost. It is very easily grown, does well in any dry open situation, and is fine for cutting or bedding. Sow outdoors in spring. Pkt., 10c.

VERBENA

The Verbena is an ideal bedding plant. It is easily grown from seed, of graceful trailing habit, has handsome foliage and lovely flowers with a wide range of harmonious colors, many with a delicate fragrance. Its blooming season extends from August to hard frost. Seed may be sown in the open ground in May, soaking in warm water to hasten germination. It may also be started in the house. A single plant will often carpet a space three to four feet in diameter.

FIVE MIXED—All colors. Pkt., 5c; ¼ Oz., 10c; ½ Oz., 35c; Oz., 75c.

MAMMOTH MIXED—A mixture composed of the finest mammoth flowering sorts. Pkt., 10c; ¼ Oz., 25c; ½ Oz., 40c; Oz., \$1.00.

AURICULA-FLOWERED—Large brilliant flowers with white eye. Pkt., 5c.

STRIPED—Mixed. Pkt., 5c.

DEFIANCE—Intense scarlet. Small flowers. Fine for bedding. Pkt., 5c.

PINK SHADES—Pkt., 5c.

RED SHADES—Pkt., 5c.

BLUE AND PURPLE SHADES—Pkt., 5c.

PURE WHITE—Pkt., 5c.

DWARF MIXED—Compact little plants five to six inches high, 18 inches across, forming a dense mat. Pkt., 10c.

WALLFLOWER

Tender perennial that will live through the winter in a mild climate and will bloom all winter in the house. Bushy plants one and one-half feet tall. Deliciously fragrant flowers in shades of brown, chocolate, orange and purple. Seed may be started in hotbed.

SINGLE MIXED—Pkt., 5c.

DOUBLE MIXED—Pkt., 10c.

ANNUAL PARIS MIXED—Will bloom the first year, plants coming quickly from seed. Pkt., 10c.

ZINNIAS

Zinnias are easily grown from seed and furnish an abundance of bloom from July until hard frost. Sow outdoors in spring. They are easily transplanted.

W. B. TALL DOUBLE GIANT—This is the best seed that can be obtained of this popular flower. A splendid strain, vigorous, branching plants, two to three feet tall, with huge velvety flowers in shades of crimson, yellow, scarlet, salmon, rose, carmine, purple and gold. **Mixed**—Pkt., 10c; $\frac{1}{4}$ Oz., 20c.

WHITE, CRIMSON, SCARLET, ROSE, GOLDEN, YELLOW
—Each, Pkt., 10c.

GOOD MIXED—Pkt., 5c; $\frac{1}{4}$ Oz., 20c.

TOM THUMB MIXED—Neat, compact little bushes, 15 inches tall, covered with dainty Pompon flowers. All colors mixed. Pkt., 5c; $\frac{1}{4}$ Oz., 20c.

GROWING FLOWERS FROM SEED

MOST flowers will grow in any ordinarily good soil.

Some, like the Delphiniums, must have abundance of plant food; others, like the Nasturtium, do best in thin soil. The ground should be well dug and pulverized. Make the surface of the bed as fine and smooth as possible; cover the seeds not more than four or five times their diameter and press the soil firmly over them. Very small seeds should be sprinkled on the surface of the ground previously smoothed with the back of a spade and barely covered with very fine soil. In dry seasons the ground must be kept moist

by watering with a fine spray every evening while the seeds are germinating. This should be done regularly. It is well to give some protection from the hot sun to very fine seeds by covering with mats or paper, or by sticking branches around them. The young plants should be thinned out to prevent crowding. A mulch of lawn grass clippings around their roots will keep the ground moist and help them to get started. In hot, dry summers the soil of the beds should have a thorough soaking two or three times a week. Merely sprinkling the foliage of the plants with a watering can does no good. The ground should be kept well worked at all times and free from weeds.

Annuals bloom and ripen their seed the first year and die. Biennials usually bloom the second year and die, although some bloom the first year. Perennials live for several successive years, usually blooming the second season, although some varieties, if started early enough, will produce flowers the first year.

HARDY FLOWERS

There is much fascination in growing hardy flowers from seed. This is slower than buying the plants and setting them out, but it is much cheaper, and there is a certain pleasure in growing the flowers oneself. Perennials are not hard to grow, but the seeds take longer to germinate than the seeds of annuals. The seed may be sown in the open ground in spring and also from July to September; it may also be started in boxes in the house or in cold frames. If you can have your hardy seed bed in some sheltered, well-drained situation, it is better. The ground must be kept moist until the little plants are up. Sowing the seeds in the dust is just the same as throwing them away, for they will not sprout. If the ground is moist when the seeds are first sown, or if they get one or two rains after being sown and are then allowed to dry out, the little plants will be killed and will never come up. When the plants become of moderate size they do not require as much moisture as annuals. Seeds of some perennials remain in the ground for months before they will all germinate.

Many hardy plants require but little winter protection. German Iris, Phlox, Peonies and Delphiniums seem indifferent to the severest cold. Freezing and thawing of the ground work the most serious damage to plants during the winter. This should be remedied by covering the ground around the roots of plants with leaves or coarse hay. Do not cover the plants themselves too closely. A light covering of coarse hay or a rough litter to shield them from the winter sun is all they need. If possible they should be sheltered from winter winds. Foxgloves and Canterbury Bells are two of the hardest plants to take through the winter successfully. They should be planted on well-drained soil.

Tall Double Giant
Zinnias.



DAHLIAS

DAHLIAS WILL grow well on any kind of soil. The soil should be thoroughly cultivated, plowed or spaded eight to ten inches deep, well pulverized and thoroughly worked over. Any form of manure, either stable manure or a green crop plowed under, is beneficial. The use of lime to keep the soil sweet is excellent, and chemical fertilizers, particularly bone meal, are very useful. Complete fertilizers containing both phosphorus, potash and ammonia, such fertilizers as would be used for potatoes, will be found excellent, especially when planting the bulbs out in the spring. Time for planting depends upon locality and situation, whether your ground is sheltered or open, and lateness of the season. They can be planted any time after danger of frost is over. Plant Pompons two to two and a half feet apart and others three or four feet apart. Place the bulbs flat and plant six inches deep. Grow to but one or two stalks. Keep ground well worked.

CACTUS DAHLIAS

This class is of a comparatively recent introduction, and is entirely distinct from any other. The flowers are very irregular, loosely and artistically formed, resembling the Chrysanthemum. The petals are long and twisted, terminating in a point. Some varieties have nearly straight petals, others are gracefully incurved.



FRENCH CACTUS DAHLIAS

MME. HENRI CAYEAUX—One of the best. Very large and perfectly formed flowers with long narrow incurved petals. Beautiful, rich pink, daintily tipped white. Each, 25c.

REINE CAYEAUX—Excellent for exhibition purposes, and also a fine garden variety. Medium sized flowers of a beautiful ruby-crimson, borne on long graceful stems. A very free-blooming variety, the plants being covered with flowers from July until frost. Each, 25c.

YVONNE CAYEAUX—Beautiful white Dahlia, of immaculate white. Large flowers, most beautiful form, a perfect star shape. Each, 35c.

GENERAL LIST OF CACTUS DAHLIAS

ADVANCE—One of the largest Cactus Dahlias. Fine form. Very full flowers, of brightest fiery-scarlet. Each, 25c.

AURORA—Very large flowers, exquisitely formed. Long, twisted incurved petals. In color, soft lovely light pink, center shading to golden-yellow. One of the very best. Each, 20c.

COUNTRESS OF LONSDALE—A standard variety. It should be in everyone's garden. It is one of the most easily grown of the Cactus Dahlias and never fails. It is literally covered with flowers from July until frost. The flowers are very large and double, always perfectly formed; in color, rich apricot, tinted violet. Each, 15c.

COUNTRESS OF MALMESBURY—Delicate peach-pink. Large and finely shaped flowers of great beauty and substance. One of the best. Each, 25c.

COCKATOO—A variegated Cactus Dahlia, with very finely formed flowers in many colors. White and lemon-yellow predominate, but the same plant will produce pink, blush, red, bronze and intermediate shades. Most of the flowers show more than one color, others will be solid color. Each, 25c.

CRIMSON BEAUTY—A dainty flower of beautiful perfect Cactus form. In color it is a clear brilliant glowing crimson. Each, 15c.

CREPUSCLE—Pale orange-yellow, shaded fawn. Large flowers of beautiful shape. Very free blooming. This has won many prizes as an exhibition flower. Each, 25c.

DAINTY—Very delicate and beautiful lemon-yellow tipped with rose-pink. Each, 20c.

DOROTHY—Clear pinkish-lavender, soft and delicate. Good sized flowers, very full and deep with sharply rolled petals. A perfect beauty. Each, 25c.

DREADNAUGHT—Of rich beautiful wine color. Very large flowers, with long slim pointed petals. Each, 15c.

EARL OF PEMBROKE—Large full flowers, of bright plum color. Each, 10c.

ETRURIA—A charming and beautiful variety. Golden-orange in color, shading yellow and orange. The petals are very much incurved, long, slim and tightly rolled. Each, 35c.

FLAME—One of the best of the new varieties. Very bright and striking, in color a beautiful orange-scarlet. The flowers are long and twisted. Stems long and strong. Each, 25c.

FLAMINGO CACTUS—Clear pure flame color. Very free-flowering. Large, finely formed flowers with long twisted petals. One of the best and most attractive. Each, 15c.

FLIEDER—Very large finely formed flowers, delicately beautiful, of lavender and white. Each, 25c.

FLORADORA—This is one of the best bloomers of the Cactus type. The flowers are of medium size, beautifully formed and always perfect. The stems are sometimes rather short, but on account of the beautiful color it should be grown by everybody. It is a beautiful pure garnet. Each, 20c.

INDOMITABLE—Fine exhibition variety. Lovely mauve-pink, lighter at the tips of the petals. Fine form. Petals very long and narrow and perfectly incurving, forming a most beautiful flower. Each, 35c.

J. H. JACKSON—This is one of the best Dahlias grown. In form it is perfect. The flowers are large and borne well above the foliage, in color rich velvety maroon. It is very reliable. Everyone should grow this Dahlia. Each, 20c.

KRIEMHILDE—A very pleasing shade of pink, with center almost white. A very dainty and attractive Cactus Dahlia, and one which is very much admired. It is always reliable. Each, 15c.

LIBELLE—Clear, deep rose-magenta. Flowers good size, elegantly formed, rich and beautiful. Each, 10c.

MARY SERVICE—This is one of the best Dahlias grown. It is very free blooming and showy. In color it is pinkish-apricot and heliotrope. Each, 15c.

MARGUERITE BOUCHON—The largest pink Cactus Dahlia grown. A splendid exhibition variety. The petals are long and slim. The color is a brilliant and beautiful rose-pink. Each, 50c.

MASTER CARL—Immense flowers of bright amber, very full and double; the largest Cactus Dahlia. It always attracts much attention. Each, 25c.

MAUVE QUEEN—A distinct and beautiful variety. Of a pleasing shade of clear mauve and of perfect form, with long tubular incurved petals. Each, 25c.

MISS A. F. PERKINS—Beautiful silvery-yellow, tipped pure white. Large perfect flowers on long stems. One of the daintiest and prettiest. Each, 20c.

MRS. DE LUCA—Golden-yellow flowers tipped orange, of splendid form and very freely produced. Each, 20c.

MRS. GEO. CASTLETON—One of the best dark shades. Blackish-maroon shaded with purple. Each, 35c.

MRS. GEO. STEVENSON—Splendid clear yellow. Flowers of great substance, freely borne on long strong stems. Very vigorous. Each, 20c.

PRINCE OF ORANGE—Very showy and attractive. Outer petals a rich shade of old gold. Center bright yellow. Each, 20c.

PRINCE OF YELLOW—Beautiful soft yellow. Medium sized, very pretty flowers. Each, 15c.

SATISFACTION—Very large flowers with long narrow incurved petals. In color, a soft sea-shell-pink. One of the most beautiful. Each, 35c.

SWEETBRIER—One of the best recent introductions. Exquisite pink flowers, borne in masses on long stems well above the foliage. This is a splendid garden variety. Each, 50c.

THE KING—A fine exhibition variety of richest velvety crimson. Each, 35c.

THOS. PARKINS—Very striking Dahlia and fine for cutting. It has long stiff stems and large finely formed flowers of bright clear terra cotta. Each, 25c.

WHITE SWAN—Pure white flowers borne on long graceful stems. Very beautiful. Each, 20c.

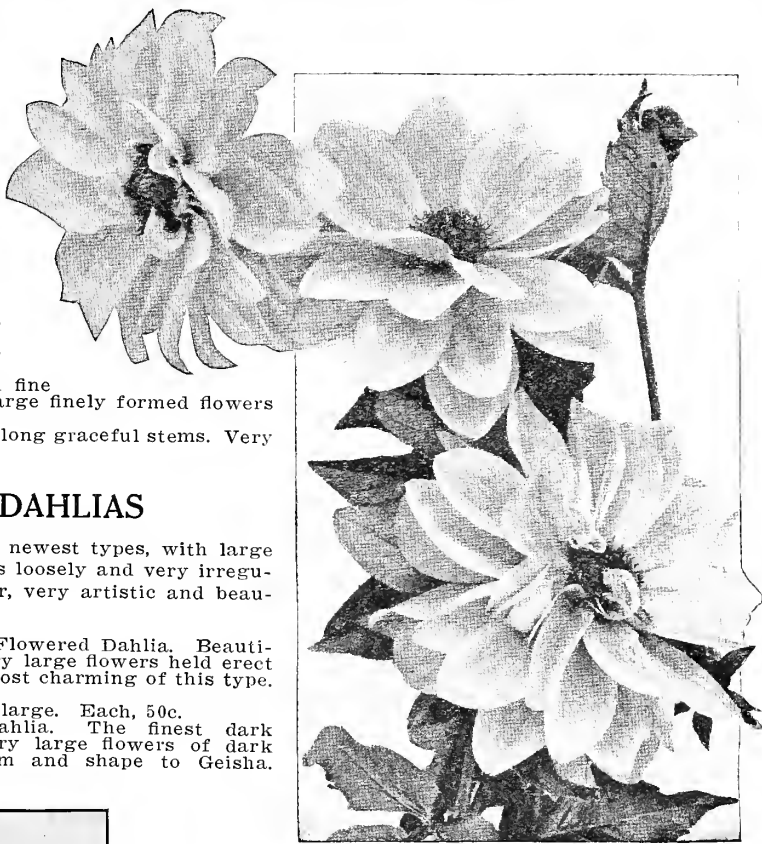
PAEONY-FLOWERED DAHLIAS

The Paeony-Flowered Dahlia is one of the newest types, with large semi-double flowers composed of broad petals loosely and very irregularly arranged, showing a rich golden center, very artistic and beautiful.

BERTHA VON SUTTNER—Holland Paeony-Flowered Dahlia. Beautiful salmon-pink overlaid with yellow. Very large flowers held erect on long strong stems. This is one of the most charming of this type. Each, 50c.

CAECILIA—A splendid creamy white. Very large. Each, 50c.

DR. PEARY—Holland Paeony-flowered Dahlia. The finest dark Paeony-flowered Dahlia in existence. Very large flowers of dark velvety mahogany-red. Identical in form and shape to Geisha. Each, 50c.



"Queen Emma."



Glory of Baarn.

MARIE STUDHOLME—German Paeony-flowered Dahlia. Delicate, bright mauve-pink. Perfectly formed flowers with gracefully curved and twisted petals. Each, 35c.

OREGON BEAUTY—Large, full flowers of clear, beautiful, vivid red, rich and beautiful. Each, 50c.

QUEEN EMMA—A charming variety with flowers of Hollyhock-pink. Inner petals banded with gold. Very full and perfect flowers. Each, 25c.

QUEEN WILHELMINA—Very beautiful. Immense fluffy pure white flowers, with yellow centers, borne on good stems. Very free-flowering. Each, 25c.

SUNRISE—English Paeony-flowered Dahlia. One of the best. Color, clear lively pink, contrasting beautifully with the heavy green foliage. Each, 35c.

GEISHA—Wonderful Holland Paeony-flowered Dahlia. This sensational variety is the showiest of this type in existence, and is most attractive. The coloring is remarkable and attracts the admiration of everyone, being a superb combination of brilliant scarlet and gold, with a ring of rich, clear yellow at the center. Occasionally the first flower comes fully double, but all that follow show the beautiful golden center, which combines to make this flower so charming. In form it is very original, consisting of peculiarly twisted and crossed petals. Each, 50c.

GLADYS DAWSON—Sometimes called the Queen of Art Dahlias. Soft yellow-rose. Beautiful in form and finish. Each, 35c.

GLORY OF BAARN—The coloring of this Dahlia is exquisite, being a delightful clear, soft pink, contrasting beautifully with the deep green foliage. The flowers are of wonderful size, freely produced on long wiry stems. Each, 25c.

HAMPTON COURT—English Paeony-flowered Dahlia. One of the best of the English creations. Immense size and marvelously beautiful. Very bright deep pink, with golden-yellow center. Each, 50c.

H. J. LOVINCK—Large, finely formed flowers on long stems. White, shaded lilac. Very delicate and beautiful. Each, 50c.

KING LEOPOLD—Holland Paeony-flowered Dahlia. Very dainty and pleasing, varying in color from cream-yellow to white. Well-formed flowers on long wiry stems. Each, 25c.

LA RIANTE—Charming deep lavender-pink. Beautiful golden-yellow center. The flowers are true Paeony type, the long graceful petals being beautifully curved and twisted, giving to the flowers a unique appearance. The fragrance is remarkably prominent. An ideal variety. Each, 25c.

DECORATIVE DAHLIAS

The Decorative Dahlias are intermediate between the Show and Cactus, having large double flowers with broad folded petals, usually reflex and loosely arranged. They are nearly always strong growers and profuse bloomers.

AMERICAN BEAUTY—Gigantic flowers, in color like the Rose of the same name, very freely produced and of perfect shape. Long heavy stems, well above the foliage. Plants very tall. Each, 25c.

MINOS—Very large flowers, borne on long graceful stems. Color, deep velvety maroon. Each, 20c.

OBAN—A charming and attractive variety. A very odd mauve shaded to fawn. The flowers are medium sized. Finely formed. Each, 10c.

PAPA CHARMET—Brilliant coral-red. Large flowers on long stems. Fine for cutting. One of the best dark Decoratives. Each, 35c.

PROF. MANSFIELD—A variegated Dahlia with extremely large flowers. Yellow with clear white tips, tinted rosy-red. A vigorous, free-blooming variety. Each, 25c.

PERLE D'OR—One of the finest white Decorative Dahlias. Pure white. Very good for cut flowers. Each, 20c.

REGGIE—One of the best Decoratives. Cherry-red, veined orange. Each, 20c.

ROYAL PURPLE—Vigorous plants $4\frac{1}{2}$ feet tall. The flowers are gigantic in size, perfectly formed, very double, borne on long stout stems. Each, 50c.

SOUVENIR DE GUSTAVE DOAZON—This is the largest Dahlia grown. The plants are very tall and vigorous. The flowers are enormous in size, a pleasing light scarlet in color. Each, 20c.

WILHELM MILLER—Brilliant purple. Very full flowers. Each, 10c.

W. W. RAWSON—A very beautiful Dahlia. Flowers 7 to 9 inches in diameter, pure white, overlaid amethyst-blue, very delicate and refined. Each, 35c.

YELLOW COLOSSE—Best exhibition yellow. Immense flowers of pure Primrose-yellow, produced in profusion on long stems. Each, 25c.

BLUE OBAN—Lavender, tinted blue. A very pretty Dahlia, perfectly formed, medium sized flowers. Very freely produced. Each, 25c.

DELICE—Good sized, distinct and strikingly beautiful flowers, of dark rosy-pink. This flower always attracts attention by its beauty. Each, 35c.

D. M. MOORE—This is a mammoth flower, distinct in color, which approaches a dark velvety maroon. It is very freely produced on long stiff stems. Each, 25c.

FIREBURST—Intense scarlet shaded to orange. Flowers of immense size. Very striking. Each, 50c.

FLAMINGO DECORATIVE—This flower ranks with Delice, but is of a rich glowing rose, often showing an open center. Flowers borne on good long stems. Each, 35c.

JACK ROSE—This is a very good variety. The flowers are produced in the greatest profusion and are the color of the Rose of the same name. Splendid for cutting or growing in masses in the garden. Each, 20c.

JEANNE CHARMET—This is one of the best of this class. In color, it is beautiful lilac-pink, shading to pure white towards the center. Very long stems. Each, 20c.

JOHN R. BALDWIN—Large, salmon-pink flowers, very freely borne on long stems. Each, 25c.

LA FRANCE—Large deep pink Dahlia, similar in color to the Rose with the same name. Long stiff stems. Each, 35c.

LE GEANT—A rich coral-red. Very large and handsome flowers borne on long strong stems. Each, 35c.

MANITOU—Very large and full flowers. Beautiful amber-bronze in color. Handsome and desirable. Each, 20c.

MME. MARZ—Splendid white Decorative. Perfectly formed, immense in size. Snowy-white flowers abundantly produced on long stems. Each, 50c.

SHOW AND FANCY DAHLIAS

The common, old-fashioned double Dahlia. The flowers are large, spherical, regular, compact and full to the center, either of solid color or edged, tipped or shaded darker. Fancy Dahlias are identical in form and habit with the Show, but are tipped or edged, splashed, striped and variegated in a different color. They often throw a solid colored flower on the same plant.

A. D. LIVONI—This is one of the most beautiful and reliable of the Show Dahlias. The flowers are a beautiful rose-pink, very symmetrical, with quilled petals forming perfect balls. It grows four feet in height. It is a splendid variety for massing, the plants being literally covered with flowers. Each, 10c.

ARABELLA—Soft primrose, tipped and shaded rose. Very lovely. Each, 10c.

DREER'S WHITE—A beautiful Dahlia, giant flowers of pure glistening white. It is very free blooming and borne on long stems. One of the most valuable of white Show Dahlias, and a favorite everywhere. Each, 25c.

DOROTHY PEACOCK—Flowers are large sized, fine form, very delicate pink. Each, 25c.

FRANK SMITH—One of the best Fancy Dahlias. Rich dark purplish-maroon, tipped white. Each, 20c.

MAUDE ADAMS—One of the best of the new introductions. Pure snowy-white overlaid clear delicate pink. Each, 50c.



W. W. Rawson.

MERLIN—Very attractive and striking. Bright orange-scarlet. Each, 20c.

MRS. DEXTER—Beautiful salmon. Very full, finely formed flowers. Each, 10c.

ROSE—A new Dahlia, having a remarkable resemblance to a Rose. It is very free-flowering, carrying its deep rose flowers erect upon long stems. Each, 50c.

STANDARD—Very large. Dark chocolate, with high center. One of the best. Each, 20c.

STRADELLA—Very fine. Free-flowering. Deep purple-crimson. Each, 20c.

POMPON DAHLIAS

This class is identical in form with the Show and Fancy, but very small in size. They are very free-flowering.

DARKEST OF ALL—The best dark Pompon. Nearly black. Each, 10c.

FAIRY QUEEN—Sulphur-yellow, edged pink. Each, 10c.

PRINCE CHARMING—One of the best. Cream tipped with purple. Each, 10c.

SNOW CLAD—Small white flowers freely produced. Each, 10c.

SUNBEAM—Fine crimson. Each, 10c.

VIVID—Beautiful bright scarlet. Each, 10c.

SINGLE DAHLIAS

Single Dahlias have but one row of petals. They resemble the Cosmos and are very free-flowering.

BLANCHE—Large flowers, pale yellow, faintly tipped pink. Very soft and delicate. Each, 25c.

GLOWING GEM—Gorgeous flowers of deep rich crimson. Each, 35c.

MAJESTY—Rich velvety maroon. Handsome and effective. Each, 50c.

MILDRED—Charming bright clear yellow. Each, 25c.

ROSE PINK CENTURY—Soft rose-pink. Each, 15c.

THE BRIDE—New giant Single Dahlia. Immense pure white flowers produced upon long stems. Each, 35c.

TWENTIETH CENTURY—Very large flowers. Pure white at base and tip, delicate blush-rose in center of petals. Each, 15c.



Primulinus Hybrids.

PRIMULINUS HYBRIDS—These hybrids have been gained by crossing the Primulinus, a species from South Africa, with the larger varieties of the Gandavensis type. They are exceedingly beautiful, dainty and graceful. The flowers are smaller than the Gladiolus proper and borne on very slender spikes. The upper petal droops, forming a "hood." They have a wide range of exquisite colors. Per doz., 15c.

GLORY OF HOLLAND—A new variety. White with slight tinting of pale pink and delicate lavender anthers. Large flowers borne on a tall graceful spike. One of the best. Each, 13c; Doz., \$1.25.

HALLEY—Delicate salmon-pink. Large open flowers borne on long graceful spikes. A very attractive variety, and one of the earliest blooming sorts. Each, 5c.

HYDE PARK—A new hybrid of the Gandavensis type. The three upper petals are frosty sparkling white, penciled and feathered with light and dark rose. The lower petals are distinctly blotched with cream. Each, 10c; Doz., 75c.

KLONDYKE—Clear primrose-yellow, with crimson-maroon blotches. Round flowers on a strong spike. An early bloomer. Each, 8c; Doz., 75c.

MRS. FRANK PENDLETON, JR.—A very striking variety. The flowers are large and well expanded. In color, delicate flushed light pink with blood-red blotch in throat. It is very strong and vigorous, and is splendid for cut flowers, as every flower opens perfectly in water. Each, 10c.

MRS. FRANCIS KING—Beautiful flame-pink. Eighteen to twenty very large flowers borne on a spike four feet tall. A splendid variety. Each, 5c.

MRS. MALCOLM MCKAY—Intense cherry-red, with pure white blotch on lower petal. A splendid variety for cutting. Each, 20c.

MARY-FENNEL—Elegant flowers of beautiful lavender, lower petals penciled Primrose-yellow. This is one of the finest and should be in every garden. Each, 20c.

COLLARETTE DAHLIAS

Collarette Dahlias are single with a row of short petals around the disk, forming a frill or collar, usually of a different color from the rest of the flower.

MAURICE RIVOIRE—Rich crimson flowers with pure white collar arranged around the golden-yellow center. Very freely produced on long graceful stems. Each, 25c.

SOUVENIR DE CHABANNE—Lemon-yellow with coral-red markings. Collar is composed of lemon-yellow petals tipped white. Charming and pretty. Each, 25c.

GLADIOLI

The Gladiolus is the most satisfactory summer bulb, is very easily grown, and will thrive in any ordinary garden soil except a stiff clay. Plant the bulbs six to nine inches apart, four to six inches deep, according to the size of the bulbs. Keep the ground well worked. For succession, plant from the time the ground can be worked until July 1st.

Unless otherwise specified we will supply all sorts priced:

5 cents each at...	\$0.50 per doz.	20 cents each at...	\$2.00 per doz.
10 " " " " " " " " " "	1.00 " " " " " " " " " "	30 " " " " " " " " " "	3.00 " " " " " " " " " "
15 " " " " " " " " " "	1.50 " " " " " " " " " "	35 " " " " " " " " " "	3.50 " " " " " " " " " "

AMERICA—This is the most popular Gladiolus in cultivation. It is a vigorous grower with luxuriant dark green foliage. The flower spikes are from two to three feet long, erect, with great numbers of large splendid flowers facing one way. In color it is exquisite, soft lavender-pink. Each, 5c; Doz., 40c.

AUGUSTA—A lovely flower. Pure white with blue anthers. Strong spikes often having two or three branches. Each, 5c.

BARON HULOT—This is one of the finest blues. The dark velvety flowers of deep violet-blue are of the Lemoine type, closely set together on long straight spikes. Each, 5c.

CANARY BIRD—Fine clear canary-yellow, without markings. Each, 10c.

DAWN—The most beautiful coral-pink Gladiolus. A long graceful spike of elegantly formed flowers, beautiful in color and texture. All open at one time. It is a good keeper. Fine for cut flowers and bedding. Ea., 20c.

PINK PERFECTION—Flowers lovely and distinct in coloring and of beautiful texture. Large open flowers of apple blossom pink borne on a strong spike. One of the finest of the newer varieties. Each, 35c.



Pink Perfection.



Europa.

EUROPA—(See illustration.) Beautiful large white flowers, borne on long strong spikes. One of the best whites. Each, 50c.

NIAGARA—Light, crocus-yellow, the two lower petals shaded deeper. The stamens are purple and the anthers pale carmine. The large open flowers are beautifully formed, borne on a strong spike and are of beautiful texture. It is a good keeper and one of the very best Gladioli. Each, 20c.

PRINCEPS—Known as the Thousand-Dollar Gladiolus. Very beautiful and attractive. Flowers rich dark scarlet, marked with white on the lower petals. Foliage beautiful dark green. Each, 8c; Doz., 75c.

PEACE—Beautiful white flowers, lower petals feathered with pale violet, unusually large and borne on strong upright, graceful spikes. A fine variety for cutting, as the flowers are good keepers and open well in water. It should be planted early, as it is a rather late bloomer. Each, 10c.

PINK BEAUTY—This is a fine variety for massing, as it stands up well. It is very vigorous, each bulb producing from one to three spikes of bloom. In color, it is a rich pink with crimson blotches. It is one of the earliest of the Gladioli and forces well. Each, 5c.

RED EMPEROR—A truly magnificent flower. Immense blossoms of great substance, well placed on a tall spike. In color, it is a deep rich royal crimson. Each, \$1.00.

ROCHESTER WHITE—A lovely variety. Pure white throughout, even to the anthers. The flowers are large and well open. The plant averages three feet in height. Each, 25c; Doz., \$2.50.

RUFFLED GLORY—Large flowers of beautiful cream-pink with a crimson stripe in the center of each petal, which is distinctly ruffled at the edge. The flowers all face the same way and are carried on straight stout stalks fully 3½ feet tall. Each, 10c; Doz., 75c.

WILLY WIGMAN—One of the most attractive. Large open flowers of a beautiful blue tint, with long bright Tulip blotch on lower petals. Very graceful in habit. Each, 8c; Doz., 75c.

GLADIOLUS MIXTURES

WING'S RESPLENDENT MIXTURE

Contains the best assortment that we can buy from specialists and importers, a wide variety of colors, all of which will harmonize either for garden planting or for cut flowers. Per doz., 75; \$1.25 per 25; \$5.00 per 100.

WING'S EXQUISITE MIXTURE

Contains all soft colors with beautifully marked throats. These colors will all harmonize. 45c per doz.; 75c per 25; \$3.00 per 100.

WING'S CHOICE MIXTURE

A very good mixture of standard varieties, with a wide range of colors. The price is moderate enough so that anyone can have a good sized planting. 25c per doz.; 40c per 25; \$1.50 per 100.

MEEHAN'S MALLOW MARVEL

THIS IS ONE of the finest plants that has been introduced in recent years. It has been tested long enough to prove its merits. It was produced at the suggestion of the late Thomas Meehan by crossing the crimson-flowered mallow of the South, a variety bearing large and beautiful crimson flowers, but not quite hardy in the North, with the common swamp mallow, which is very common in New Jersey and the Eastern States. The result of this hybridization was the beautiful "Meehan's Mallow Marvel." The plants form large clumps, in rich soil with plenty of water, sending up stems 6 to 8 feet in height in one year. They are of herbaceous character, dying down in the fall, and springing up again the following year, stronger than ever. They may be divided, forming new clumps. They begin blooming in late July and continue until frost. The flowers resemble the Hollyhock, which belongs to the same family, are usually 8 to 10 inches in diameter, on thrifty plants sometimes 12 inches in diameter, in soft shell-pink, fiery-crimson, white and rich blood-red. A group of these noble plants with their wonderfully rich and brilliant flowers is indescribably striking and beautiful. We have grown them ourselves on Woodland Farm, and no other flower has given us so much pleasure and satisfaction. They are very hardy, doing as well in Canada and the mountain regions of the Northern States as they do in the South. Our stock is secured from the original growers, and is exceptionally strong and healthy.

2-Year-Old Roots.

Red 40c each; \$4.00 Doz.
Pink 20c each; 2.00 Doz.
White 25c each; 2.50 Doz.

3-Year-Old Roots.

Red 60c each; \$6.00 Doz.
Pink 30c each; 3.00 Doz.
White 40c each; 4.00 Doz.

Shipped direct from nursery in Pennsylvania at purchaser's expense.



Meehan's Mallow Marvels.

CANNAS

PLANT CANNAS when danger from frost is over. If your roots have lain dormant all winter, separate them in March or April and select those which show three or four eyes. If you want particularly early plants, put them in rich soil, and when they have developed about six inches growth, transplant them outdoors.

In preparing the bed, have it dug deep and thoroughly worked over, as the Canna loves deep rich soil. Do not crowd the plant. Eighteen inches apart is a good distance. Give plenty of water, keep dead blooms picked off and the ground worked thoroughly.

After the first frost, cut down the plant to three inches. Dig on a bright day, dry bottom upwards in the sun. Store in cool cellar. Examine frequently; if they get too dry, moisten them, but be very careful in this, as they will rot if given too much water.

We will supply all sorts priced

15 cents each at.....\$1.50 per doz.	30 cents each at.....\$3.00 per doz.
20 " " " 2.00 " "	35 " " " 3.50 " "

BETSY ROSS—Three feet. Green foliage. Beautiful pink flowers borne freely in large heads. Each, 20c.

BRANDYWINE—Three and a half feet. Bronze foliage. Brilliant red flowers borne in great abundance throughout the whole season. Fine for planting in masses. Each, 15c.

BUTTERCUP—Three feet. Green foliage. Flowers very bright or buttercup-yellow. A most charming variety. Each, 18c.

CALIFORNIA—Four feet. Green foliage. Flowers are a pure, rich orange-gold, medium size and borne freely. One of the most attractive colors in Cannas. Each, 15c.

GLADIFLORA—Three and a half feet. Green foliage. Flowers crimson, changing to carmine-rose, edged gold. Flowers well formed, resembling large Gladioli. The round petals are so wide they overlap each other. Each, 20c.

GLADIATOR—Four and a half feet. Green foliage. Flowers yellow with crimson spots. Each, 20c.



Kate F. Deemer.

Cannas are fine for growing in the house in winter. When intended for this, they should be set out late in July, lifted and potted before frost. The dwarf varieties are the most suitable, and among the best are Betsy Ross, Buttercup, Panama, Mrs. Alfred F. Conard, Juanita and Kate F. Deemer. Among the tall ones, King Humbert and Wintzer's Colossal make magnificent specimens.



King Humbert.

JUANITA—Four feet. Heavily bronzed foliage. Flowers rich chrome-yellow. A very lovely and striking Canna. Each, 30c.

KATE F. DEEMER—Four feet. Green foliage. The splendid flowers are described as "a rich oriole-yellow, which gradually gives place to turkey-red in the center." The throat of the flower is in striking contrast with the rest of the blossom, which turns almost white. The rich yellow buds on reddish-bronze stems, combined with the yellow and white flowers, makes a fascinating combination. Each, 20c.

KING HUMBERT—Four feet. Bronze foliage, with brownish-green stripes, large and thick leaves. The large flowers are of bright orange-scarlet, streaked crimson. Each, 15c.

MONT BLANC IMPROVED—Three and a half feet. Green foliage. Flowers almost pure white. Each, 20c.

MRS. ALFRED F. CONARD—Four feet. Fine dark green foliage. Lovely salmon-pink flowers of great size and beauty, abundantly produced. This is the most popular pink Canna ever produced and is unsurpassed for planting, either singly or in large beds. Each, 25c.

METEOR—Five feet. Green foliage. Flowers deep dazzling crimson, produced in masses throughout the entire summer. This stands in the front rank of red Cannas. Each, 30c.

OLYMPIC—Five feet. Green foliage. Beautiful shade of rich oriental-red, center flamed a lighter shade and dappled carmine. The individual blossoms are of the largest size, borne in huge clusters. Each, 35c.

PANAMA—Three feet. Green foliage. Rich orange-red with a well defined edge of bright golden-yellow. Very attractive and striking. The flowers are very large, the petals almost round. Each, 35c.

VENUS—Four feet. Green foliage. Flowers gay rosy-pink with a border of creamy-yellow. This is one of the prettiest Cannas. It is in bloom the entire season. Each, 15c.

WABASH—Four feet. The bronze-leaved Rosea Gigantea. The flowers are of great size, with petals broad, carmine-pink in color, and are borne in great abundance well above the magnificent foliage. Each, 25c.

WINTZER'S COLOSSAL—Five to 6 feet. Green foliage. Vivid scarlet orchid flowers 8 inches across. The largest Canna in commerce, far ahead of all others in size and brilliancy. Each, 35c.

WYOMING—7 feet. Purple foliage. Orange-scarlet orchid flowers with large round petals. One of the most majestic of Cannas. Each, 15c.

IRIS JAPANESE IRIS

(Iris Kämpferi)

Truly royal are these flowers. Their coloring is wonderful, delicately beautiful in the paler shades, rich and gorgeous in the deeper ones. They are ornamental in the garden and useful for cutting.

CULTURE—They are easily grown. Plant in early spring, the last of August or beginning of September. If planted late, they should be well covered with straw. They will do well in any fertile mellow soil. Keep the ground well worked. They like plenty of moisture in summer, although it is not absolutely necessary; but water standing on them in winter will kill them.

PRICES—Each, 25c; Doz., \$2.50; Order by name or number.

1. **YOMO-NO-UMI**—A fine, free-flowering early creamy-white; 6 petals.
2. **DATE-DOGU**—Rich violet-purple.
3. **HANO-NO-NISHIKI**—Bright violet, white veinings.
4. **GEKKA-NO-NAMI**—Large pure silvery-white; early.
5. **KUMA-FUNJIN**—White with a broad border of magenta-lilac; 6 petals.
6. **SHI-UN-RYO**—Grayish-white, deeply and densely veined and suffused with violet.
7. **YOSKIMO**—Creamy-white, delicately veined with violet; 6 petals.
8. **KAGARIBI**—Silvery-White, traced and marbled with ultramarine-blue; 6 petals.
9. **GEI-SHO-I**—Bright violet-purple, with many white veins; 6 petals.
10. **UJI-NO-HOTARU**—Dark violet-purple, shaded with blue, very late; 6 petals.
11. **YAYAURA**—White, marbled with light violet.
12. **NITARI**—White overlaid with rosy-purple.

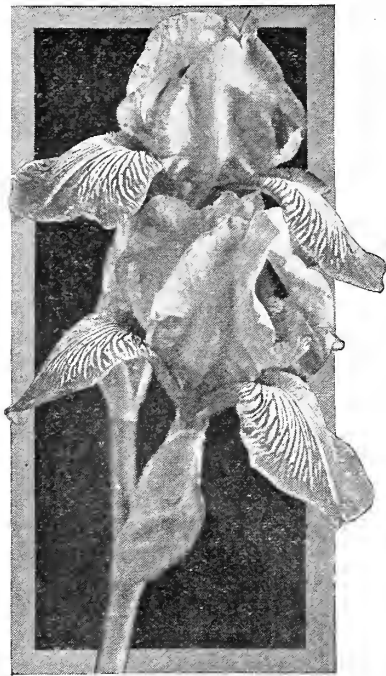
IRIS GERMANICA

(German Iris, or Fleur de Lis)

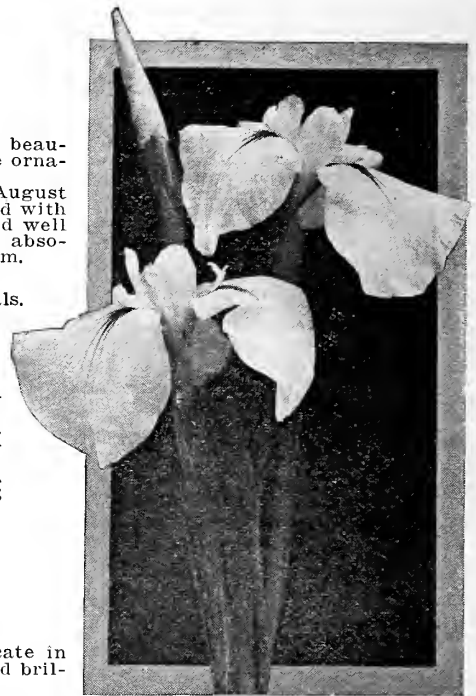
"The Orchids of the Garden," beautiful in structure, exquisitely delicate in texture and unequalled in their range of color, which include both soft and brilliant shades in every conceivable combination.

CULTURE—This is of the easiest. They delight in hot sunlight and a well drained situation. They will do well in almost any soil except a wet one, which causes them to decay. Plant in early spring or during August or September. When planted in the fall they should be covered with straw or litter to prevent their being heaved out of the ground.

PRICES—(Except where noted.) Each, 15c; Doz., \$1.50.



Iris Germanica Queen of the May.



Japanese Iris Shi-Un-Ryo.

ARCHEVEQUE (Archbishop)—An exquisite flower. New and very scarce. Falls deep velvety violet; standards deep purple-violet. Each, 60c.

CELESTE—Fine satiny azure-blue. One of the most beautiful.

HONORABILIS (Sans Souci)—Very effective combination. Standards golden, falls rich mahogany-brown.

JEANNE D'ARC (New)—Large flowers with broad sepals, in color fresh, clear lilac. Falls pure white, bordered lilac. Three feet in height. Each, 75c.

LORELEY—Very fine. Standards light yellow, falls ultramarine-blue, bordered lilac, three feet in height. Each 25c; Doz., \$2.50.

MME. CHEREAU—This is one of the loveliest of this class. The large flowers are elegantly frilled, of pure white with a wide border of clear blue, borne on strong, upright stems, often from two to three feet tall.

MME. PACQUETTE—A very beautiful early Iris. Self-colored in bright rosy-claret. Each, 20c; Doz., \$2.00.

NEUE D'ORAGE ("Stormcloud") (New)—Very fine. Large flowers. Standards of grayish slate-blue, shaded bronze, falls purplish-blue. Each, 60c.

PALLIDA DALMATICA—A superb variety, one of the very finest. It is perfectly hardy and a vigorous grower. The foliage is very beautiful. The strong stems grow to a height of 40 inches and are crowned by great flowers of clear, silvery-lavender. Fine for cutting. Each, 20c; Doz., \$2.00.

PALLIDA MANDRALISCAE—Large, handsome flowers of rich lavender-purple. Each, 25c; Doz., \$2.50.

QUEEN OF GYPSIES—A late blooming Iris. Two feet in height. Standards old gold, shaded smoked-pearl, falls black-maroon, reticulated light yellow.

QUEEN OF THE MAY—A beautiful Iris and quite distinct. The color is a lovely soft rosy-lilac, almost pink; 32 inches. Each, 20c; Doz., \$2.00.

RHEIN NIXE—A charming new Iris. Very large white standard, falls rich violet-purple with a distinct narrow white edge. Each, 50c.

TRAUTLIEB—Very fine new Iris. Standards and falls lovely uniform soft rose. Each, 30c; Doz., \$3.00.

VENUS—Standards lemon-yellow, shaded golden-yellow, falls white, deeply veined purple.

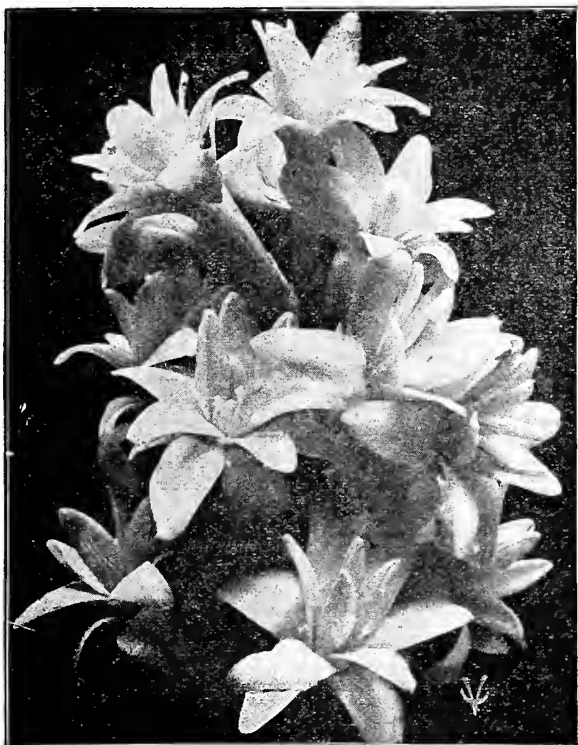
WALHALLA—Standards rosy-lavender, falls delicate claret-red. Very handsome and distinct. Each, 20c; Doz., \$2.00.

KOCHII—Sometimes sold under the name of Black Prince. A very handsome and effective flower. Standards and falls rich claret-purple.

FLAVESCANS—Large, sweet-scented flowers. Standards and falls a delicate shade of soft yellow. Fine for massing and useful for cutting in late May and early June. Thirty inches in height.

KING OF IRIS—A new Iris and one of the most beautiful. A tall and vigorous grower, with large brilliant flowers. Standards clear lemon-yellow, falls rich maroon, bordered yellow. Each, 30c.

SAMBUCINA—A very showy Iris and very fragrant, having the odor of the elder from which it derives its name. Standards coppery-rose, falls rosy-purple with orange crest. Twenty-seven inches.



Tuberoses.

IRIS SIBIRICA

A slender tall growing Iris, very elegant and graceful. It has narrow grassy foliage and flowers are much like those of the German Iris, but smaller. The plant soon forms large compact clumps, covered with the beautiful flowers.

CULTURE—Same as the German Iris.

SIBIRICA ORIENTALIS—Flowers of brilliant deep blue.

Each 15c; Doz., \$1.50.

SIBIRICA S N O W QUEEN—A beautiful new variety. Large ivory-white flowers. Each, 20c; Doz., \$2.00.

IRIS PUMILA HYBRIDA

Dwarf variety of the German Iris, growing about 8 inches high, free-blooming and very sweet-scented. Fine for borders. They bloom about two weeks before the German Iris. **Mixed**—Each, 15c; Doz., \$1.50.

We sh Iris either in spring or fall.

IMPORTANT

Unless otherwise stated, we prepay charges on roots, plants and bulbs. We ship all orders as soon as possible after receipt, but if requested we will reserve plants for future shipment.

Quotations on Montbretias and Tuberous-Rooted Begonias are subject to safe arrival of stocks from Europe.

CALADIUM

Fine tropical-looking plant, a favorite for specimen plants or massing. Will grow in ordinary garden soil, but to get best results should be planted in well enriched soil and given an abundance of water.

PRICES BY MAIL POSTPAID.

5 to 7 inches in circumference.....Each, 10c; 6 for 50c
9 to 11 inches in circumference.....Each, 25c; 6 for \$1.25
Mammoth bulbsEach, 40c; 6 for 2.00

ISMENE

One of the loveliest of the summer-blooming bulbs. It belongs to the Amaryllis family. Two or three weeks after planting the large bulbs send up stalks two feet high, bearing several large pure white fragrant flowers, chaste and elegant. It is very easily grown and does well either as a pot plant or in beds. 20c each, postpaid; Doz., \$2.00.

MONTBRETIAS

Very attractive little summer-blooming bulbs with graceful spikes of pretty flowers in shades of yellow, red and orange, and with foliage resembling the Gladiolus but smaller.

Plant in groups of six or twelve in a sunny location. They are not always hardy and the root stalk and bulbs may be lifted, covered with loose dry soil and wintered in cellar. Price per doz., 35c, postpaid.

TUBEROSES

The Tuberose with its beautiful waxen white flowers and rich fragrance is well known. May be planted outdoors in spring, but if started in pots and transplanted to the open ground, flowers may be had much earlier.

MAMMOTH SIZE by mail, postpaid—Each, 7c; Doz., 65c.

FIRST SIZE by mail, postpaid—3 for 10c; Doz., 25c.

TUBEROUS-ROOTED BEGONIAS

One of the most beautiful of bedding plants and also good pot plants. The waxen flowers are from 2 to 7 inches in diameter, in white, yellow, rose, carmine, salmon and scarlet. They do well in full sun or partial shade, but must be kept moist.

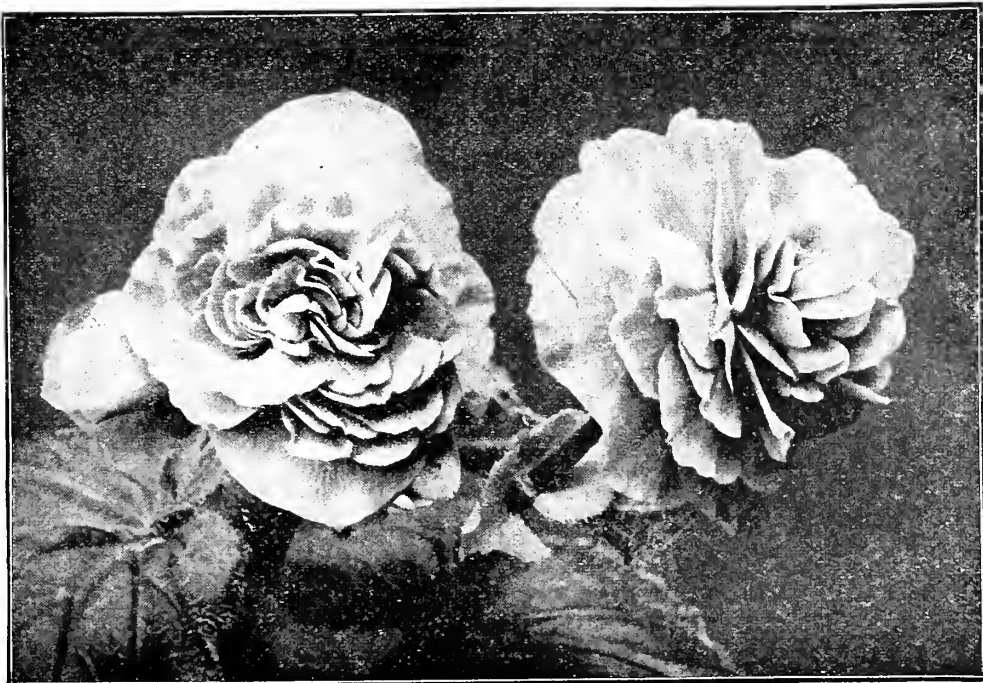
BULBS

SINGLE TUBEROUS-ROOTED—White, Pink, Scarlet, Yellow. Each, 5c; Doz., 50c.

DOUBLE TUBEROUS-ROOTED—White, Pink, Scarlet, Yellow. Each, 10c; Doz., \$1.00.

SINGLE FRILLED MIXED—Each, 10c; Doz., \$1.00.

DOUBLE FRILLED MIXED—Each, 15c; Doz., \$1.50.



Double Tuberous-Rooted Begonia.

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Wing's Latest Crop

